00063961

Digitized with financial assistance from
Observer Research Foundation
on 17 May, 2019

PORCELAIN

PLATE I. JAPANESE IMARI WARE

PORCELAIN

BY

EDWARD DILLON, M.A.

63961

β1026

Vx-6-46

METHUEN AND CO.
36 ESSEX STREET
LONDON

O
738.2
Dil/Por
63961

PREFACE

HOW extensive is the literature that has grown up of late years round the subject of porcelain may be judged from the length of our 'selected' list of books dealing with this material. Apart from the not inconsiderable number of general works on the potter's art in French, German, and English, there is scarcely to be found a kiln where pottery of one kind or another has been manufactured which has not been made the subject of a separate study. And yet, as far as I know, the very definite subdivision of ceramics, which includes the porcelain of the Far East and of Europe, has never been made the basis of an independent work in England.

It has been the aim of the writer to dwell more especially on the nature of the paste, on the glaze, and on the decoration of the various wares, and above all to accentuate any points that throw light upon the relations with one another—especially the historical relations—of the different centres where porcelain has been made. Less attention has been given to the question of marks. In the author's opinion, the exaggerated importance that has been given to these marks, both by collectors and by the writers that have catered to them, has more than anything else tended to degrade the study of the subject, and to turn off the attention from more essential points. This has been above all the case in England, where the technical side has been strangely neglected. In fact, we must turn

to French works for any thorough information on this head.

In the bibliographical list it has been impossible to distinguish the relative value of the books included. I think that *something* of value may be found in nearly every one of these works, but in many, whatever there is of original information might be summed up in a few pages. In fact, the books really essential to the student are few in number. For Oriental china we have the Franks catalogue, M. Vogt's little book, *La Porcelaine*, and above all the great work of Dr. Bushell, which is unfortunately not very accessible. For Continental porcelain there is no 'up-to-date' work in English, but the brief notes in the catalogue prepared shortly before his death by Sir A. W. Franks have the advantage of being absolutely trustworthy. The best account of German porcelain is perhaps to be found in Dr. Brinckmann's bulky description of the Hamburg Museum, which deals, however, with many subjects besides porcelain, while for Sèvres we have the works of Garnier and Vogt. For English porcelain the literature is enormous, but there is little of importance that will not be found in Professor Church's little handbook, or in the lately published works of Mr. Burton and Mr. Solon. The last edition of the guide to the collection lately at Jermyn Street has been well edited by Mr. Rudler, and contains much information on the technical side of the subject. On many historical points the notes in the last edition of Marryat are still invaluable: the quotations, however, require checking, and the original passages are often very difficult to unearth.

In the course of this book I have touched upon several interesting problems which it would be impossible to thoroughly discuss in a general work of this kind. I take, however, the occasion of bringing one or two of these points to the notice of future investigators.

Much light remains to be thrown upon the relations

of the Chinese with the people of Western Asia during the Middle Ages. We want to know at what time and under what influences the Chinese began to decorate their porcelain, first with blue under the glaze, and afterwards by means of glazes of three or more colours, painted on the biscuit. The relation of this latter method of decoration to the true enamel-painting which succeeded it is still obscure. So again, to come to a later time, there is much difference of opinion as to the date of the first introduction of the *rouge d'or*, a very important point in the history and classification of Chinese porcelain.

We are much in the dark as to the source of the porcelain exported both from China and Japan in the seventeenth century, especially of the roughly painted 'blue and white,' of which such vast quantities went to India and Persia. So of the Japanese 'Kakiyemon,' which had so much influence on our European wares, what was the origin of the curious design, and what was the relation of this ware to the now better known 'Old Japan'?

When we come nearer home, to the European porcelain of the eighteenth century, many obscure points still remain to be cleared up. The currently accepted accounts of Böttger's great discovery present many difficulties. At Sèvres, why was the use of the newly discovered *rose Pompadour* so soon abandoned? And finally, in England, what were we doing during the long years between the time of the early experiments of Dr. Dwight and the great outburst of energy in the middle of the eighteenth century?

The illustrations have been chosen for the most part from specimens in our national collections. I take this opportunity of thanking the officials in charge of these collections for the facilities they have given to me in the selection of the examples, and to the photographer in the reproduction of the pieces selected. To

Mr. C. H. Read of the British Museum, and to Mr. Skinner of the Victoria and Albert Museum, my thanks are above all due. To the latter gentleman I am much indebted for the trouble he has taken, amid arduous official duties, in making arrangements for photographing not only examples belonging to the Museum, scattered as these are through various wide-lying departments, but also several other pieces of porcelain at present deposited there by private collectors. To these gentlemen, finally, my thanks are due for permission to reproduce examples of their porcelain—to Mr. Pierpont Morgan, to Mr. Fitzhenry, to Mr. David Currie, and above all to my friend Mr. George Salting, who has interested himself in the selection of the objects from his unrivalled collection.

The small collection of marks at the end of the book has no claim to originality. The examples have been selected from the catalogues of the Schreiber collection at South Kensington, and from those of the Franks collections of Oriental and Continental china. For permission to use the blocks my thanks are due, as far as the first two books are concerned, to H.M.'s Stationery Office and to the Education Department; in the case of the last work, to Mr. C. H. Read, who, I understand, himself drew the original marks for Sir A. W. Franks's catalogue.

In a general work of this kind much important matter has had to be omitted. That is inevitable. I only hope that specialists in certain definite parts of the wide field covered will not find that I have committed myself to rash or ungrounded generalisations. Let them remember that the carefully guarded statements and the reservations suitable to a scientific paper would be out of place in a work intended in the main for the general public.

E. D.

CONTENTS

PAGE

PREFACE, ... v

LIST OF ILLUSTRATIONS, ... xii

SELECTED LIST OF WORKS ON PORCELAIN, . xxvi

KEY TO THE BIBLIOGRAPHICAL LIST, . . xxxiii

LIST OF WORKS ON OTHER SUBJECTS REFERRED TO IN THE TEXT, ... xxxv

CHAPTER I. Introductory and Scientific, . . 1

CHAPTER II. The Materials: Mixing, Fashioning, and Firing, ... 14

CHAPTER III. Glazes, ... 30

CHAPTER IV. Decoration by means of Colour, . 38

CHAPTER V. The Porcelain of China. Introductory—Classification—The Sung Dynasty—The Mongol or Yuan Dynasty, . . 49

CHAPTER VI. The Porcelain of China (*continued*). The Ming Dynasty, . . . 78

CHAPTER VII. The Porcelain of China (*continued*). The Manchu or Tsing Dynasty, . 96

CHAPTER VIII. The Porcelain of China (*continued*). Marks, ... 117

PAGE

CHAPTER IX. The Porcelain of China (*continued*). King-te-chen and the Père D'Entrecolles, ... 123

CHAPTER X. The Porcelain of China (*continued*). Forms and uses—Descriptions of the various Wares, ... 137

CHAPTER XI. The Porcelain of Korea and of the Indo-Chinese Peninsula, ... 168

CHAPTER XII. The Porcelain of Japan, . . 177

CHAPTER XIII. From East to West, . . 208

CHAPTER XIV. The First Attempts at Imitation in Europe, ... 233

CHAPTER XV. The Hard-Paste Porcelain of Germany. Böttger and the Porcelain of Meissen, ... 244

CHAPTER XVI. The Hard-Paste Porcelain of Germany (*continued*). Vienna—Berlin—Höchst — Fürstenberg — Ludwigsburg — Nymphenburg — Frankenthal — Fulda — Strassburg. The Hard and Soft Pastes of Switzerland, Hungary, Holland, Sweden, Denmark, and Russia, ... 259

CHAPTER XVII. The Soft-Paste Porcelain of France. Saint-Cloud—Lille—Chantilly—Mennecy—Paris—Vincennes—Sèvres, . 277

CHAPTER XVIII. The Hard-Paste Porcelain of Sèvres and Paris, ... 305

CHAPTER XIX. The Soft and Hybrid Porcelains of Italy and Spain, ... 316

CHAPTER XX. English Porcelain. Introduction. The Soft-Paste Porcelain of Chelsea and Bow, ... 326

CONTENTS

PAGE

CHAPTER XXI. English Porcelain (*continued*). The Soft Paste of Derby, Worcester, Caughley, Coalport, Swansea, Nantgarw, Lowestoft, Liverpool; Pinxton, Rockingham, Church Gresley, Spode, and Belleek, 350

CHAPTER XXII. English Porcelain (*continued*). The Hard Paste of Plymouth and Bristol, . 375

CHAPTER XXIII. Contemporary European Porcelain, ... 387

EXPLANATION OF THE MARKS ON THE PLATES, . 395

MARKS ON PORCELAIN, ... 400

INDEX, ... 405

LIST OF ILLUSTRATIONS

I. JAPANESE, Imari porcelain ('Old Japan'). (H. c. 19 in.) Vase, slaty-blue under glaze, iron-red of various shades and gold over glaze. Early eighteenth century. Salting collection. (*Frontispiece.*)

II. CHINESE, Ming porcelain. (H. c. 15 in.) Jar with blue-black ground and thin, skin-like glaze. Decoration in relief slightly counter-sunk, pale yellow and greenish to turquoise blue. Probably fifteenth century. Salting collection. (*To face p.* 44.)

III. (1) CHINESE. (H. c. 9 in.) Figure of the Teaching Buddha. Celadon glaze, the hair black. Uncertain date. British Museum.

(2) CHINESE, probably Ming dynasty. (H. 11¼ in.) Vase with open-work body, enclosing plain inner vessel. Thick celadon glaze. Victoria and Albert Museum. (*To face p.* 64.)

IV. CHINESE, Sung porcelain. (H. c. 12 in.) Small jar with thick pale-blue glaze, and some patches of copper-red; faintly crackled. *Circa* 1200. British Museum. (*To face p.* 71.)

V. CHINESE, Ming porcelain. Three small bowls with apple-green glaze. Fifteenth or sixteenth century. British Museum.

(1) Floral design in gold on green ground. (Diam. 4⅜ in.) On base a coin-like mark, in-

scribed *Chang ming fu kwei*—'long life, riches, and honour.'

(2) Similar decoration and identical inscription to above (diam. 4¾ in.), set in a German silver-gilt mounting of sixteenth century.

(3) Shallow bowl (diam. 5¼ in.). Inside, apple-green band with gold pattern similar to above; in centre, cranes among clouds—blue under glaze. (*To face p.* 81.)

VI. CHINESE. Ming porcelain. (H. 7¾ ins.) Spherical vase, floral decoration of Persian type in blue under glaze; the neck has probably been removed for conversion into base of hookah. Probably sixteenth century. Bought in Persia. Victoria and Albert Museum. (*To face p.* 84.)

VII. (1) CHINESE. Ming porcelain. (H. c. 18 in.) Baluster-shaped vase; greyish crackle ground, painted over the glaze with turquoise blue flowers (with touches of cobalt), green leaves and manganese purple scrolls; a little yellow in places, and around neck cobalt blue band *under glaze*. On base, mark of Cheng-hua, possibly of as early a date (1464-87). British Museum.

(2) CHINESE. Ming porcelain. (H. c. 19 in.) Vase of square section with four mask handles, imitating old bronze form. Enamelled with dragons and phœnixes; copper-green and iron-red over glaze with a few touches of yellow, combined with cobalt blue under glaze. Inscription, under upper edge, 'Dai Ming Wan-li nien shi.' *Circa* 1600. British Museum. (*To face p.* 90.)

VIII. CHINESE. Ming porcelain. Covered inkslab (L. 9¾ in.), pen-rest (L. 9 in.), and spherical vessel

(H. 8 in.). Decorated with scroll-work in cobalt blue under the glaze. Persian inscriptions in cartels, relating to literary pursuits. Mark of Cheng-te (1505-21). Obtained in Pekin. British Museum. (*To face p.* 94.)

IX. CHINESE, turquoise ware. Probably early eighteenth century. Salting collection.

(1) Pear-shaped vase (H. 8½ in.), decorated with phœnix in low relief. Six-letter mark of Cheng-hua.

(2) Plate with pierced margin (diam. 11 in.). Filfot in centre encircled by cloud pattern, in low relief.

(3) Small spherical incense-burner (H. 5 in.). Floral design in low relief. (*To face p.* 98.)

X. CHINESE, *famille verte.* (H. 18 in.) Vase of square section, decorated with flowers of the four seasons. Green, purple, and yellow enamels and white, as reserve, on a black ground. Mark of Cheng-hua. *Circa* 1700. Salting collection. (*To face p.* 100.)

XI. CHINESE, *famille verte.* (H. 26 in.) Baluster-shaped vase, decorated with dragons with four claws and snake-like bodies amid clouds. Poor yellow, passing into white, green of two shades, and manganese purple upon a black ground. A very thin skin of glaze, with dullish surface. Probably before 1700. Salting collection. (*To face p.* 102.)

XII. CHINESE, egg-shell porcelain. *Famille rose.*

(1) Plate (diam. 8¼ in.). On border, vine with grapes, in gold. In centre, lady on horseback,

accompanied by old man and boy carrying scrolls. 1730-50. British Museum.

(2) Plate (diam. 8½ in.). In centre the arms of the Okeover family with elaborate mantling. Initials of Luke Okeover and his wife on margin. Early *famille rose*, the *rouge d'or* only sparingly applied. *Circa* 1725. British Museum.
(*To face p.* 108.)

XIII. (1) CHINESE, *famille verte*. Long-necked, globular vase (H. 17 in.), enamelled with figures of Taoist sages, etc.: green, iron-red, yellow, purple, and opaque blue, all over the glaze. Early eighteenth century. Salting collection.

(2) CHINESE. Tall cylindrical vase (H. 18 in.). Red fish among eddies of gold on blue ground. Early eighteenth century. Salting collection.

(3) CHINESE. Spindle-shaped vase (H. 18 in.). Pure white, chalky ground; three fabulous animals seated. 1720-40. Salting collection.
(*To face p.* 110.)

XIV. JAPANESE. Imari porcelain. Large dish (diam. 20 in.). Painted under the glaze with cobalt blue in various shades, relieved with gold. In centre, landscape with Baptism of Christ. Below, in panel on margin—Mat. 3 16. Seventeenth century. Victoria and Albert Museum.
(*To face p.* 133.)

XV. (1) CHINESE. Open-work cylinder (H. 5¼ in.) formed of nine interlacing dragons; the top pierced with nine holes. Plain white ware, with greyish white glaze. Probably Ting ware of Ming period. Victoria and Albert Museum.

(2) CHINESE. Ming porcelain. Water-vessel for base of hookah (H. 4¾ in.). Cobalt blue under glaze. Chinese sixteenth century; made for the Persian market. Victoria and Albert Museum.
(*To face p.* 142.)

XVI. CHINESE. Two vases for flowers (H. 11¼ and 10½ in.). Floral design in white slip upon a *fond laque* or 'dead leaf' ground. Seventeenth century. Bought in Persia. Victoria and Albert Museum. (*To face p.* 146.)

XVII. CHINESE. Three vases, examples of *flambé* or 'transmutation' glazes. First half eighteenth century. Salting collection.

(1) Vase with monster handles (H. 9 in.); glaze irregularly crackled.

(2) Cylindrical vase, made in a mould (H. 10 in.).

(3) Small pear-shaped vase (H. 7½ in.), mottled red and blue. (*To face p.* 150.)

XVIII. (1) CHINESE 'blue and white.' Small vase (H. 7½ in.). The paste pierced before glazing to form an open-work pattern filled up by glaze. Eighteenth century. British Museum.

(2) CHINESE 'blue and white.' Mortar-shaped vase (H. 10 in.). Scattered figures of Taoist sages in pale blue. Chinese, probably sixteenth century. British Museum.
(*To face p.* 154.)

XIX. CHINESE, Ming porcelain. Vase (H. 9½ in.), shaped into vertical, convex panels. The top has been ground down. Very thick paste, showing marks of juncture of moulds. Decoration

of kilins and pine-trees in exceptionally brilliant cobalt blue under glaze. Probably fifteenth century. Victoria and Albert Museum.
(*To face p.* 157.)

XX. CHINESE. Globular vase with long neck (H. 17¾ in.). Design built up of lines of iron-red and gold. *Circa* 1720. Bought in Persia. Victoria and Albert Museum. (*To face p.* 162.)

XXI. CHINESE armorial porcelain. Octagonal plate (diam. 16 in.). Talbot arms in centre surrounded by design of books, scrolls, etc.—all in blue under glaze. Early eighteenth century. British Museum. (*To face p.* 164.)

XXII. CHINESE porcelain from Siam. Three covered bowls, probably enamelled in Canton for the Siamese market. Early nineteenth century. Victoria and Albert Museum.

(1) Floral design in iron-red, green and yellow over glaze. (H. 6½ in.)

(2) Buddhist divinities in panels amid flame-like ground. Opaque enamels—iron-red, pink, yellow and black. (H. 9 in.)

(3) Floral design in cobalt blue under glaze. (H. 6¼ in.) Brass rim and foot. Said to be a cinerary urn. (*Tho-khôt.*) (*To face p.* 174.)

XXIII. JAPANESE, Kakiyemon ware. *Circa* 1650. British Museum.

(1) Saucer or plate with scalloped edge (diam. 9¾ in.). Prunus springing from straw hedge, Chinese boy and tigers. Enamels—green, yellow, iron-red and blue, all over glaze.

(2) Four-sided bottle (H. 8¾ in.). Formally treated flowers in iron-red, green and blue, all over glaze.

(3) Octagonal saucer (diam. 5¾ in.). Decoration of quails and flowers in iron-red, green and gold over glaze, with cobalt blue under glaze.

(*To face p.* 184.)

XXIV. (1) CHINESE. Covered bowl (H. 8 in.). Floral rosette with fourteen lobes in imitation of the Japanese *kiku-mon*. Iron-red, green and gold over glaze with deep cobalt blue under glaze. Early eighteenth century; made at King-te-chen in imitation of the contemporary Imari ware. Salting collection.

(2) JAPANESE, Imari ware. Bowl with scalloped edge (diam. 9 in.). Chrysanthemum flowers in low relief; iron-red, green and gold over glaze and cobalt blue under glaze. *Circa* 1700. Salting collection.

(*To face p.* 186.)

XXV. JAPANESE, Imari ware. Large plate (diam. 22 in.). On margin, mandarin ducks, cranes and doves in panels amid flowers; in centre, two eagles. Iron-red of various shades, gold and a few touches of green over glaze with deep cobalt blue under glaze. Late seventeenth century. Salting collection. (*To face p.* 188.)

XXVI. JAPANESE, Kutani ware. Jar (H. 13 in.); on a greyish white, somewhat crackled ground, grotesque dancing figures; iron-red, manganese purple, yellow, green, and blue, all over glaze. Seventeenth century. British Museum.

(*To face p.* 204.)

XXVII. JAPANESE. Kutani, kaolinic stoneware. Octagonal bottle, in shape of double gourd (H. 12 in.). Thick enamels — green (predominant), iron-red, purple and blue, all over glaze. *Circa* 1700. Victoria and Albert Museum.
(*To face p.* 206.)

XXVIII. CHINESE 'blue and white.' Two bowls, set in copper-gilt mounts of English make, *circa* 1600-1620. From a set of five pieces long preserved at Burleigh House. Pierpont Morgan collection.

(1) Shallow bowl (diam. 9 in.), in centre medallion with phœnix. Mark of Wan-li (1572-1619).

(2) Bowl, with deer in panels (diam. 10 in.). *Circa* 1600. (*To face p.* 222.)

XXIX. MEDICI porcelain. Late sixteenth century. Victoria and Albert Museum.

(1) Pear-shaped vase (H. $6\frac{7}{8}$ in.). Floral design in cobalt blue, outlined with manganese black, both under glaze.

(2) Double-necked cruet (H. 6 in.). Design in pale blue under glaze. On the neck, A and O, for *aceto* and *oglio*. (*To face p.* 236.)

XXX. MEDICI porcelain. Plate or shallow bowl (diam. 7 in.). Floral design in somewhat Persian style, in cobalt blue under glaze. On back, the dome of Sta. Maria del fiore and the letter F. Late sixteenth century. Fitzhenry collection. (*To face p.* 238.)

XXXI. MEISSEN porcelain. Hexagonal vase with cover (H. 12 in.). Floral design in coloured

enamels of the Kakiyemon style. Mark, the crossed swords in blue. 1730-50. Franks collection (Bethnal Green). (*To face p.* 253.)

XXXII. (1) MEISSEN porcelain. Plate with wavy edge (diam. 9 in.). Claret border with gold sprigs. Humming-bird in centre. Mark, the crossed swords with dot in blue. 1763-74, in imitation of Chelsea ware. Victoria and Albert Museum, ex Bernal collection.

(2) LUDWIGSBURG porcelain. Plate (diam. $9\frac{1}{4}$ in.). Scrolls in low relief in white round margin; scattered flowers in lilac *camaïeu*. Mark, double C under crown, for Carl, Duke of Würtemberg. 1760-70. Victoria and Albert Museum. (*To face p.* 266.)

XXXIII. (1) ROUEN porcelain. Cup (H. $3\frac{1}{4}$ in.). Conventional design, in dark blue under glaze, in style of seventeenth century. Thin and very translucent body. Probably before 1700. Fitzhenry collection.

(2) SAINT-CLOUD porcelain. Ewer with cover (H. $7\frac{3}{4}$ in.). Scale pattern in relief. Celadon glaze of sagy-green tint. Mounted with thumb-piece and rim of engraved silver. *Circa* 1700. Fitzhenry collection.

(3) SAINT-CLOUD porcelain. Ewer with cover (H. $5\frac{1}{4}$ in.). Conventional design, in blue under glaze, in style of seventeenth century. *Circa* 1700. Fitzhenry collection. (*To face p.* 282.)

XXXIV. CHANTILLY porcelain. Two cylindrical vases with covers (H. 7 in.). Rims mounted in silver (one gilt). Enamelled over the glaze in

the Kakiyemon style—Chinese landscape and boys playing. Mark, hunting-horn in red. *Circa* 1730-40. Fitzhenry collection.
(*To face p.* 286.)

XXXV. (1) SÈVRES, white biscuit-ware (H. 6½ in.). Young girl seated with a *sabot* in her lap, a child crouching beside her. Mark, F incised (perhaps for Falconet or for the year 1758). Franks collection (Bethnal Green).

(2) MENNECY, white glazed ware. Figure of bagpiper (H. 9½ in.). *Circa* 1750. (From an engraving by J. Dumont le Rom, 1739.) Franks collection (Bethnal Green).
(*To face p.* 288.)

XXXVI. (1) VINCENNES or EARLY SÈVRES porcelain. Ewer with cover (H. 4¾ in.). *Gros bleu* ground with birds and flowers in white reserves. Mark, double L with three dots, in blue under glaze. *Circa* 1750. Victoria and Albert Museum; Jones collection.

(2) and (3) SÈVRES porcelain. Two small *sucriers* (H. 3 in.). *Gros bleu* and green ground, with birds on branches painted in white reserves. No mark, but early. Victoria and Albert Museum; Jones collection.
(*To face p.* 294.)

XXXVII. SÈVRES porcelain. Vase (H. 10¾ in.), one of a pair, decorated with wreaths of flowers on a white ground. Mark, the letter I, for 1761. Victoria and Albert Museum; Jones collection.
(*To face p.* 296.)

XXXVIII. SÈVRES porcelain. *Écuelle* and saucer (diam. 5 in. and 7½ in.). Turquoise ground; panels

with pastoral scenes. Mark, the letter Q for 1768, and *ch.* for the painter Chabry. Victoria and Albert Museum; Jones collection.

(*To face p.* 298.)

XXXIX. SÈVRES porcelain. *Sucrier*, saucer and caddy from *Cabaret* (H. 4 in., $4\frac{3}{4}$ in., and 3 in.). *Rose carné* ground; flowers, etc., painted on white reserves. Mark, the letter H for 1760, and an anchor for the painter Buteux père. Victoria and Albert Museum; Jones collection.

(*To face p.* 300.)

XL. SÈVRES porcelain. Covered cup (H. $3\frac{3}{4}$ in.) and saucer (diam. 5 in.). Jewelled decoration on white ground. Studs of opaque white and turquoise and transparent ruby, connected by foliage of transparent green lined by gold. 1780-86. No mark. Currie collection.

(*To face p.* 302.)

XLI. (1) and (2) VENETIAN porcelain. Tall cup (H. $4\frac{3}{8}$ in.) and saucer (diam. $5\frac{1}{8}$ in.). Birds and vines in blue under glaze with slight gilding. Mark, VEN^{A} on cup, the same in script on saucer. Probably the work of the Vezzi family (1719-40). Franks collection (Bethnal Green).

(3) MEISSEN porcelain. Pot-pourri with cover (H. $5\frac{1}{2}$ in.). Fluted sides, flowers in high relief enamelled in colours. Mark, crossed swords in blue. *Circa* 1750. From the Strawberry Hill collection. Franks collection (Bethnal Green).

(4) FRANKENTHAL porcelain. Ewer and cover (H. $6\frac{5}{8}$ in.). Painted in lilac *camaïeu* with landscape (signed—Magnus pi.) Gilt

borders. 1761-78. Mark, C. T. under crown in blue. Franks collection (Bethnal Green).
(*To face p.* 316.)

XLII. (1) CAPO DI MONTE porcelain. Scent bottle (H. 3⅞ in.). Child in swaddling-clothes of blue and lilac. *Circa* 1750. Victoria and Albert Museum.

(2) CAPO DI MONTE porcelain. Siren (H. 2⅝ in.), plain white, made for stand of vessel. *Circa* 1750. From the Bandinel collection. Victoria and Albert Museum.

(3) CAPO DI MONTE porcelain. Triton (H. 2⅞ in.). Plaque in low relief, made for application. *Circa* 1750. Victoria and Albert Museum.

(4) DOCCIA porcelain. Cup with cover (H. 4⅜ in.). Plain white, vine branches in relief. Victoria and Albert Museum.
(*To face p.* 320.)

XLIII. CHELSEA porcelain. Saucer (diam. 4½ in.), sugar-basin (H. 4 in.), and cream-jug (H. 2¾ in.), forming part of an extensive tea equipage. Claret ground with rich gilding; pastoral figures in reserve panels. *Circa* 1760. Victoria and Albert Museum; Thomson bequest.
(*To face p.* 340.)

XLIV. CHELSEA porcelain. Two figures of minuet dancers (H. 11½ in. and 10¾ in.). Enamelled with winy-red, pale opaque turquoise, and a little green and iron-red—the lady's stays lavender. These figures seem to have been suggested by the principal dancers in Watteau's *Fête Champêtre* now at Edinburgh (engraved by Laurent Carrs, 1734, as *Fêtes Venitiennes*). *Circa*

1760. Victoria and Albert Museum; Schreiber collection. (*To face p.* 342.)

XLV. (1) CHELSEA porcelain. Plate (diam. 8 in.) with wavy edge. Enamelled with shades of iron-red and green, with blue under glaze and gilding, in imitation of brocaded Imari ware. 1750-60. Victoria and Albert Museum.

(2) Bow porcelain. Octagonal plate (diam. 9 in.). In centre, two fighting cocks, in the Kakiyemon style; the wreaths of flowers suggested rather by Dresden. Iron-red, claret, and an opaque, poor blue enamel, laid on thickly, with gilding. *Circa* 1760. Victoria and Albert Museum. (*To face p.* 346.)

XLVI. WORCESTER porcelain. Tea-poy (H. 6½ in.), sugar-basin (H. 4¾ in.), and milk-jug (H. 5 in.) from a tea equipage. Trellis design. *Circa* 1780. Victoria and Albert Museum. (*To face p.* 362.)

XLVII. WATER-COLOUR DRAWING (17 in. by 18½ in.), by Thomas Baxter, junior; signed and dated 1810. The studio of Thomas Baxter, senior, 1 Gough Square. Porcelain painters at work. A price-list of Coalport white china is seen on the wall. Victoria and Albert Museum. (*To face p.* 366.)

XLVIII. (1) PLYMOUTH porcelain. Market-woman with flower-basket. (H. 10 in.). Plain white, with lines of dirty brown in folds of drapery and stand. *Circa* 1770. Victoria and Albert Museum; Schreiber collection.

(2) BRISTOL porcelain. Female figure, 'Autumn' (H. 10 in.). Belt with signs of

zodiac. Enamels—green, lilac, iron-red, and yellowish-green, with gilding. *Circa* 1775. Victoria and Albert Museum; Schreiber collection. (*To face p.* 380.)

XLIX. (1) BRISTOL biscuit-ware. Medallion (max. diam. of plaque, 6 in.) with head of Washington in centre, from a contemporary medal ('General of the Continental Armies'). *Circa* 1778. British Museum.

(2) BRISTOL porcelain. Ink-stand (H. 7½ in.), in plain white ware, supported by three griffins. Victoria and Albert Museum.

(*To face p.* 382.)

SELECTED LIST OF WORKS ON PORCELAIN

ALPHABETICAL LIST OF AUTHORS

ALEXANDRA PALACE: *Catalogue of Collection of English Porcelain and Pottery on Loan in* 1873.

BACHELIER ET GOUELLAIN: *Mémoire Historique sur la Porcelaine de la France, ré-édité avec préface, par G. G.* Paris, 1878.

BARBER (E. A.): *Pottery and Porcelain in the United States.* New York, 1901.

BEMROSE (W.): *Bow, Chelsea, and Derby Porcelain.* London, 1898.

BERTIN (HENRI): *Catalogue and Notice of 'Cabinet Chinois.'* Paris, 1815.

BING (M. S.): *La Céramique Japonaise* (in Gonze's *Art Japonais*). Paris, 1883.

BINNS (R. W.):—

A Century of Potting in the City of Worcester. Worcester, 1883.

Catalogue of Collection of Porcelain at Royal Porcelain Works. Worcester, 1882.

BRINCKMANN (J.): *Hamburgisches Museum für Kunst und Gewerbe. Beschreibung des Europäischen Porzellans.* Hamburg, 1894.

BRINKLEY (F.): *History of Japanese Ceramics* (*Chrysanthemum*, iii., 1883). Yokohama.

BRONGNIART (ALEXANDRE): *Traité des Arts Céramiques.* 2 vols. and Atlas. Paris, 1844, 1854, and 1857 (with additions by A. Salvétat).

BRONGNIART ET RIOCREUX: *Sèvres, Musée Céramique.* Paris, 1845.

BURTON (W.):—
History of English Ceramics. 1902.
The Influence of Material on Design of Pottery. Cantor Lectures, 1897.

BURLINGTON FINE ARTS CLUB:—
English and Continental Porcelain. 1873.
Blue and White Oriental China. 1895.
Coloured Chinese Porcelain. 1896.

BUSHELL (S. W.):—
Oriental Ceramic Art, illustrated by selections from the Collection of W. T. Walters. Folio. New York, 1897; Text Edition, 8vo., 1899.
Chinese Porcelain before the present Dynasty. Pekin, 1886.

CHAFFERS (W.):—
The Ceramic Gallery, with 500 Illustrations. 1872.
Marks and Monograms on Pottery and Porcelain. 9th edition. 1900.

CHAMPFLEURY: *Bibliographie Céramique.* Paris, 1881.

CHANTILLY: *La Manufacture de Porcelaine de C.* Paris, 1892.

CHURCH (A. H.):—
English Earthenware (South Kensington Art Handbook). 1884.
English Porcelain (South Kensington Art Handbook). 1885 and 1898.
Scientific and Artistic Aspects of Pottery. Cantor Lectures, 1881.

D'ENTRECOLLES (PÈRE): *Lettres Édifiantes et Curieuses.*

DAVILLIER (J. C.):—
Les Origines de la Porcelaine en Europe. Paris, 1882.
Les Porcelaines de Sèvres et Mme. du Barry. Paris, 1870.
DRAKE (SIR W.): *Notes on Venetian Ceramics.* Privately printed, 1868.
DUBREUIL: *La Porcelaine.* Part 42 of Fremy's *Encyclopédie Chimique.* Paris, 1885.

ENGELHARDT (C. A.): *J. F. Böttger, Erfinder des Sächsischen Porzellans.* Leipsic, 1837.

FALKE (JACOB VON): *Die K.K. Wiener Porzellan Fabrik.* Vienna, 1887.
FRANKS (SIR A. W.):—
Catalogue of Oriental Pottery and Porcelain. 1878.
Catalogue of Continental Porcelain. 1896.
Japanese Pottery (South Kensington Handbook). 1880.
The Manufacture of Porcelain at Chelsea. Archæological Journal. 1862.

GARNIER (ÉDOUARD):—
Histoire de la Céramique. Tours, 1882.
The Soft-Paste Porcelain of Sèvres. 50 Plates. 1892.
Copenhagen, Manufacture Royale de Porcelaine (*Bulletin de l'Art et de l'Industrie*). Paris, 1894.
GARNIER ET GASNAULT: *Musée National, Limoges, Catalogue.* 1881.
GASNAULT ET GARNIER: *French Pottery* (South Kensington Handbook). 1884.
GEOLOGICAL MUSEUM: *See* REEKS, T.

GERSAINT: *Catalogue of the Fonspertuis Collection.* Paris, 1747.

GINORI (MARCHESE CARLO): *La Manifattura Ginori a Doccia.* Florence, 1867.

GONZE (LOUIS): *L'Art Japonais.* Paris, 1886.

GOUELLAIN: *see* BACHELIER.

GRAESSE (J. G. T.): *Guide de l'amateur de Porcelaine et de Potterie.* Dresden, 4th edition, 1873.

GRANDIDIER (E.): *La Céramique Chinoise.* Paris, 1894.

GRIGGS (W.): *Examples of Armorial China.* Folio. 1887.

GULLAND (W. G.): *Chinese Porcelain* (notes by T. J. Larkin). 1898 and 1903.

HASLEM (JOHN): *The Old Derby China Factory.* 1876.

HIPPISLEY (ALFRED): *Ceramic Art in China* (Smithsonian Institute). Washington, 1890.

HIRTH (F.): *Ancient Chinese Porcelain.* Leipsic, 1888.

HOFFMANN: *Mémoire sur la Céramique du Japon* (Appendix to Julien's work).

HOUDOY (JULES): *Histoire de la Céramique Lilloise.* Paris, 1869.

JACQUEMART (A.) et LE BLANC (E.): *Histoire de la Porcelaine.* Folio; etchings by Jules Jacquemart. Paris, 1862.

JACQUEMART (A.):—

Histoire de la Céramique. Paris, 1873. English translation by Mrs. Palliser. 1873.

Les Merveilles de la Céramique. Paris, 1866-69.

JAENNICKE (FRIEDRICH):—

Grundriss der Keramik. Stuttgart, 1878-79.

Die Gesammte Keramische Litteratur. Stuttgart, 1882.

JEWITT (LL.):—
The Ceramic Art of Great Britain. 1883.
A History of the Coalport Porcelain Works. 1862.

JULIEN (STANISLAS): *Histoire et Fabrication de la Porcelaine Chinoise.* Translated from the Chinese. Notes by Salvétat; and memoir on Japanese Porcelain by Hoffmann. Paris, 1856.

KOLBE (G.): *Geschichte der K. Porzellan Manufactur zu Berlin.* Berlin, 1863.

LITCHFIELD (FRED.): *Pottery and Porcelain.* 1900.

MACON (G.): *Les Arts dans la Maison de Condé.* Paris, 1903.

MARRYAT (JOSEPH): *History of Pottery and Porcelain.* 3rd edition, 1868.

METEYARD (ELIZA): *Life of Josiah Wedgwood.* 1865.

MEYER (A. B.): *Lung-chüan yao, oder alter Seladon Porzellan.* Berlin, 1889.

MILLY (COMTE DE): *L'Art de la Porcelaine.* Paris, 1771.

MONKHOUSE (COSMO): *History and Description of Chinese Porcelain.* (Notes by S. W. Bushell.) 1901.

NIGHTINGALE (J. E.): *Contributions towards the History of English Porcelain, from contemporary sources.* Salisbury, 1881.

OWEN (HUGH): *Two Centuries of Ceramic Art at Bristol.* 1873.

PARIS (Exposition Universelle, 1900): *Histoire de l'art de Japon.*

PATENT OFFICE: *Patents relating to Pottery and Porcelain.* 1863.

PIOT (EUGÈNE): *Histoire de la Porcelaine* (Cabinet de l'Amateur). Paris, 1863.

RANDALL (JOHN): *A History of Madeley, including Coalport*, etc. Madeley, 1880.

REEKS (T.), and RUDLER (F. W.): *Catalogue of English Pottery in the Museum of Practical Geology.* 1893.

RIAÑO (DON JUAN): *Handbook of Spanish Arts* (South Kensington). 1879.

RICCIO: *La Fabbrica della Porcellana in Napoli.* Naples, 1878.

RIS-PAQUOT (O. E.): *Dictionnaire des Marques et Monogrammes de Porcelaines.* Paris, 1880 and 1893.

SALVÉTAT (A.): *Leçons de Céramique.* Paris, 1857.

SARTEL (O. DU): *La Porcelaine de Chine.* Paris, 1881.

SCHREIBER COLLECTION, *Catalogue of.* 1885.

SEIDLITZ (W. VON): *Die Meissner Porzellan Manufactur unter Böttger* (*Society of Saxon History*, vol. ix.)

SOIL, EUGÈNE: *Recherches sur les Anciennes Porcelaines de Tournay.* Paris, 1883.

SOLON (M. L.): *History of Old English Porcelain.* 1903.

SOUTH KENSINGTON MUSEUM:—

List of Books on Pottery and Porcelain in the National Library. 2nd edition, 1885.

Classified Catalogue of Printed Books, Ceramics. 1895.

STEGMANN (H.): *Die Fürstliche Braunschweigische Porzellan Manufactur zu Fürstenberg.* Brunswick, 1893.

STRÅLE (G. H.): *Rörstrand et Marieberg. Céramiques Suédoises du dix-huitième Siècle.* Stockholm, 1872.

THIANCOURT et DAVILLIER: *L'Art de Restaurer les Porcelaines.* Paris, 1865.

TIFFEN (W. F.): *A Chronograph of the Bow, Chelsea, and Derby China Manufactories.* Salisbury, 1875.

TURNER (W.): *The Ceramics of Swansea and Nant-garw.* 1897.

UYEDA, TOKUNOSUKE. *La Céramique Japonaise.* Paris, 1895.

VERNADSKY. *Molecular Composition of Porcelain.* '*Comptes Rendus,*' 1890, p. 1377.

VOGT (GEORGES): *La Porcelaine.* Paris, 1893.

WALLACE COLLECTION (Hertford House): *Catalogue of Porcelain,* etc. 1902.

WALPOLE (HORACE): *Ædes Strawberrianæ: Catalogue of the Strawberry Hill Collection.* Privately printed, 1784.

WURTZ (HENRY): *Chemistry and Composition of Porcelain and Porcelain Rocks in Japan.* Philadelphia Exhibition Reports, 1877.

ZAIS (E.): *Die Kurmainzische Porzellan-Manufactur zu Höchst.* Mainz, 1887.

KEY TO THE BIBLIOGRAPHICAL LIST

ALPHABETICAL LIST OF TOPOGRAPHY AND SUBJECT

America. Barber.

Berlin. Kolbe.
Bibliography. Champfleury, Jaennicke, South Kensington.
Bow. Bemrose, Tiffen.
Bristol. Owen.
Buen Retiro. Riaño.

Capo di Monte. Riccio.
Catalogues. Burlington Fine Arts Club, Bertin, Binns, Franks, Garnier, Schreiber, Walpole, Wallace.
Chantilly. Chantilly, Gasnault, Macon.
Chelsea. Bemrose, Franks, Tiffen.
China. Burlington Fine Arts Club, Bushell, D'Entrecolles, Franks, Griggs, Gulland, Grandidier, Hirth, Hippisley, Julien, Meyer, Monkhouse, Du Sartel.
Coalport. Randall.
Composition and Chemistry. Brongniart, Church, Reeks, Vernadsky.
Continental Porcelain. Brinckmann, Franks, Garnier.

Derby. Bemrose, Haslem, Tiffen.
Doccia. Ginori.
Dresden. See *Meissen.*

English Porcelain. Alexandra Palace, Burton, Church, Jewitt, Nightingale, Reeks, Solon.

Fürstenberg. Stegmann.

General. Chaffers, Garnier, Jacquemart, Jaennicke, Litchfield, Marryat, Piot, Vogt.

Höchst. Zais.

Japan. Brinkley, Bushell, Bing, Franks, Gonze, Hoffmann, Paris Exhibition, Uyeda, Wurtz.

Korea. Bushell.

Lille. Houdoy.

Manufacture. See *Technology.*
Marks. Chaffers, Franks, Jaennicke, Ris-Paquot.
Medici. Davillier.
Meissen. Brinckmann, Engelhardt, Grässe, Seidlitz.

Nantgarw. Turner.

Plymouth. Owen.

Repairing. Thiancourt.

Saint-Cloud. Lister, Gasnault.
Saxony. See *Meissen.*
Sèvres. Bachelier, Davillier, Garnier, Gasnault, Vogt.
Swansea. Turner.
Sweden. Stråle.

Technology. Brongniart, Burton, Bushell, D'Entrecolles, Dubreuil, Julien, Reeks, Salvétat, Vogt, Wurtz.

Tournay. Soil.

Venice. Davillier, Drake.
Vienna. Falke.

Wedgwood. Meteyard.
Worcester. Binns.

LIST OF WORKS ON OTHER SUBJECTS REFERRED TO IN THE TEXT

BORLASE. *Natural History of Cornwall.* Oxford, 1758.

CHARDIN. *Voyages en Perse.* Amsterdam, 1686.

DAVIS (SIR JOHN): *The Chinese.* 1857.

GERTZ. *Les Produits de la Nature Chinoise et Japonaise.* Yokohama.

HIRTH (F.):—
China and the Roman Orient. 1855.
Fremde Einflüsse in der Chinesischen Kunst. Leipsic, 1896.
Chinesische Studien. Munich, 1890.

LISTER (DR. MARTIN): *Journey to Paris.* London, 1699.

POLO (MARCO):—
Le Livre de M. P. Edited by M. G. Pauthier. Paris, 1865.
The Book of Ser M. P. Edited by H. Yule, 1871.

PALÉOLOGUE: *L'Art Chinois.* Paris, 1887.

PLOT (DR.): *Natural History of Oxfordshire.* Oxford, 1677.

REIN (J. J.): *Industries of Japan.* 1889.

RICHTHOFEN (FERDINAND V.): *China.* Berlin, 1877.

YULE (H.): *Cathay and the Way Thither.* 1866.

PORCELAIN

CHAPTER I

INTRODUCTORY AND SCIENTIFIC

IT is with a comparatively small branch of the art of the potter that we are concerned in this book. Porcelain or china, in all countries except the one where it was slowly brought to perfection, has always remained something of an exotic, and even in China we shall see that it was the immediate Imperial patronage and the constant demand for the court at Pekin that brought about the great development of the art under the present dynasty. In Japan, the first independent country to which the new art spread, it was under the eye of the greater and smaller feudal lords, often in the very garden of their palaces, that the kilns were erected, while the ware produced was reserved for the use of the prince and his household. Both in China and Japan we shall find the decline of the art to go hand in hand with the advance of the demand for the Western market, so that by the beginning of the nineteenth century we lose all interest in the manufacture.

This dependence upon royal or princely support is equally prominent in the history of the shortlived porcelain factories of Europe. Their success or failure has generally followed closely upon the greater or less interest taken in them by the reigning prince, and few of these kilns survived the political changes of the end of the eighteenth century.

PORCELAIN

No doubt, within the last twenty years or so a certain revival has come about both in the Far East and in certain European countries, and that under totally different conditions from those which prevailed in the eighteenth century. Here and there, at least, the manufacture of porcelain has come within the sphere of the new impulses that have brought about such changes in the 'Arts and Crafts' at the end of the nineteenth century.

In its main lines, the history of porcelain is a very simple one. Slowly developed during the Middle Ages in China, the manufacture became concentrated at one spot, at King-te-chen, and there reached its highest development early in the eighteenth century. In Europe, the repeated attempts to produce a similar ware had about the same time been crowned with complete success in Saxony; while in England and in France a ware closely resembling in aspect the Chinese, but softer and more fusible, had been accepted as an equivalent. Speaking generally, then, we can make these three statements with regard to the history of porcelain:—

1. That the art had its origin and complete development in China.

2. That it has seldom flourished except under royal or princely patronage.

3. That porcelain, from the artistic point of view, is essentially a product of the eighteenth century, and that this statement is true in the main as regards the country of its origin, though in this latter case we must make a certain reserve in favour of the earlier wares.

Our subject may seem a simple one compared with some kindred branches of the industrial arts, such, for example, as the history of glass-making, or that of cloisonné and other enamels. We come indeed at more than one time into contact with both these arts,

and it is just at these points that some of our chief difficulties arise. It is in view of such questions as these, and indeed of many others equally important in the history of porcelain, that the necessity of a thorough understanding of the technical and even chemical side of our subject becomes evident. Of course, if in discussing the different kinds of porcelain we are concerned only with their merits or demerits as artistic products, we can put aside these practical questions as 'beneath the dignity of our argument.' But such a treatment of the subject would land us only too surely in vague generalities and in an arrangement based upon personal caprice. We require, above all at the start, a firm basis, and this can only be found in a thorough comprehension not only of the technical processes that are involved in the manufacture of porcelain, but of the physical and chemical nature of the substance itself.

But first we need some kind of preliminary definition of what is meant by the word. Porcelain, then, is distinguished from other fictile wares by possessing in a pre-eminent degree the following qualities: hardness, difficult fusibility, translucency, and whiteness of body or paste. Any specimen of ceramic ware that possesses all these qualities may be classed as porcelain, and from a practical point of view, the more it excels under these heads, the better specimen of porcelain it is.

These were the qualities by which the porcelain brought from the East in the seventeenth century was distinguished from any ware made at that time in Europe. Our ancestors dwelt especially on the practical advantages of the hard glaze and the elastic compact paste of the new ware, which compared favourably with the easily scratched surface and the crumbly body of the earthenware then in general use.

The greater infusibility that accompanies this

hardness was not a point of much importance to them, but they marvelled at the translucency of the edges, as of some natural stone, and we find absurdly exaggerated accounts of the transparency both of the original ware and of the imitation that they claimed to have made. Finally, they noticed that the whiteness of the surface was not given by an artificial layer more or less closely adhering to an earthy base, but was the natural colour of the paste to which the thin layer of transparent glaze merely gave the effect of the polish on ivory or on marble. What then was this hard, white, translucent substance? What wonder if from one end of Europe to the other, scheming minds—chemists, alchemists, physicians, potters, and charlatans—were at work trying to make something that should resemble it? The history of this long search is a very interesting one, but it would be impossible to explain its failures, its partial failures (these last resulting in a compromise—soft-paste porcelain), and the final success of Böttger, without, as it were, going behind the scenes, and giving some account of porcelain from a modern, scientific point of view.

And first let us say that, although when treating of porcelain from the historical and especially from the æsthetic standpoint (and this after all is our principal business in this book), it is well to take a wide grasp and include a whole class of china—I mean the soft-paste ware—which does not come up to our standard of hardness and infusibility, this is not the case when we are considering the physical, and especially the chemical, nature of porcelain. By confining ourselves, for the present, to true hard porcelain, we have the advantage of dealing with a substance which chemically and physically may be compared to a definite mineral species. Nay more, we propose here to confine ourselves to the consideration of the hard pastes used at the present day in the wares of France and Germany,

neglecting for the present the softer and more irregular porcelain of the Chinese.

First as regards hardness, the surface of the paste of a true porcelain, when free from glaze, can be scratched by a crystal of quartz, but it is untouched by the hardest steel. That is to say, it would be classed by the mineralogist with felspar, and given a hardness of 6 to 6·5 on his scale.[1]

The freshly broken edge shows a white, perfectly uniform substance, a glassy or vitreous lustre, a finely granular texture, and a fracture conchoidal to splintery. When struck, a vessel of porcelain gives a clear, bell-like note, and in this differs from other kinds of pottery. When held against the light it allows, where the piece is sufficiently thin, a certain amount to pass through, but even in the thinnest splinters porcelain is never transparent.

If a thin section be made of a piece of porcelain, and this be examined under the microscope by transmitted light, we see, scattered in a clear, or nearly clear, paste, a vast number of minute, slender rods, and between them many minute granules (Church's *English Porcelain*, p. 6). These belonites and spherulites, as they have been called, doubtless reflect the light which would otherwise pass through the glassy base in which they float, and the partial reflection and partial transmission of the light may not be unconnected with the lustrous fracture so characteristic of porcelain. Their presence points to the fact that we are dealing with a more or less definite substance, one which may be compared to a natural mineral species, and not merely with a semi-fused clay, something between stoneware and glass. Now when we come to treat of the chemical constitution of porcelain, we shall find that this view is confirmed. This structure is developed in the paste by

[1] Some English porcelain is stated by Professor Church to have a hardness equal to that of quartz. See below, 'Bristol Porcelain.'

the exposure, for a considerable period of time, to a temperature of from 1300° to 1500° centigrade, a temperature which is sufficient to reduce all other kinds of pottery, with the exception of some kinds of stoneware, to a glassy mass. In the case of porcelain, this great and prolonged heat allows of a complete rearrangement of the molecules in the softened mass. The process may be compared to that by which certain minerals and rocks are formed in the depths of the earth.

We see, then, that not only from the standpoint of history, but on the basis of the physical properties and intimate constitution of the material, we are able to draw a sharp line between porcelain and other fictile wares. This distinction is even more definitely shown by a chemical analysis.[1]

We are dealing, as in the case of so large a part of the rocks and minerals of the earth's surface, with certain silicates of the alkalis and alkaline earths, with silicates of alumina above all. All natural clays used for fictile purposes consist essentially of silicates of various bases, such as alumina, lime, iron, potash, and soda, more or less intimately combined with water, and with the addition, generally, of some free silica. If the clay be good in working quality and colour, the next point the potter has to look to is the question of its fusibility. It may be said generally that the simpler the constitution of a silicate, that is the smaller the number of bases that it contains, the greater will be its resistance to fire. Silicate of alumina is unaltered at 1500° C., a temperature which may be taken as the maximum at the command of the potter. The fusing-point is reduced by the addition of silica, especially if some other bases such as oxide of iron or lime, or again an

[1] We have thought it well, once for all, to treat briefly of the scientific aspect of our subject, but those who are not interested in this point of view may pass over the next few pages.

alkali, are present even in small quantity. But beyond a certain point the addition of silica raises the fusing-point, and it is important to note that it is this excess of silica that renders certain stonewares and fire-clays so infusible. In the case of porcelain, on the other hand, the resistance to high temperatures depends more upon the percentage of alumina present, and the absence or small amount of other bases. Thus in comparing the composition of different porcelains, we find that it is those that contain the most silica that are the most fusible, or rather, to speak more accurately, that become 'porcelainised' at a lower temperature.[1]

The relation of porcelain to stoneware on the one hand, and to ordinary pottery on the other, will be made clear by the following figures, which give the composition of stoneware, Meissen porcelain, and of a red Samian ware:—

	Stoneware.	Meissen Porcelain.	Samian Ware.
Silica, . .	80 per cent.	58 per cent.	61 per cent.
Alumina, . .	12 „	36 „	21 „
Potash and Soda,	5 „	5 „	5 „
Lime and Iron,	3 „	1 „	13 „

The refractory stoneware contains a large excess of silica over the amount required to combine with the alumina and the 'other bases.' In the easily fusible Roman pottery, the 'other bases' nearly equal in amount the alumina, while the Meissen porcelain not only contains less silica than the pottery, but the 'other bases' only amount to a sixth part of the alumina present.

[1] I shall return to this point in a later chapter. I lay the more stress on this fact, as it is often stated that the hard and slightly translucent stonewares, such as the Fulham ware of Dwight, which contains as much as eighty per cent. of silica, form one degree of a series of which true porcelain is the next term. The fact is, those who sought to make porcelain by a refinement in the manufacture of stoneware were as much astray as those who started from a fusible glass frit.

But it is not enough for the manufacturer to discover a clay of which the chemical composition corresponds to that of the type of porcelain which he proposes to make. The question, as an experiment of Brongniart long ago proved, is more complicated. Brongniart weighed out the separate constituents for his porcelain—the silica, the alumina, and the alkalis—and from them he formed his paste. He found, however, that the paste readily melted at the heat of the porcelain furnace. The analysis then of any ceramic product can give us but an imperfect clue to the nature and properties of the ware. We want to know how the elements are arranged, and this can only be inferred from a knowledge of the materials employed in the manufacture. I will illustrate this point by comparing the composition of Meissen porcelain with that of our Dorsetshire pipe-clay, the most famous of our English clays, but a material not sufficiently refractory for use in the manufacture of porcelain. Both substances contain the same amount of alumina—36 per cent.; in the Poole clay (after removing the water) there is 55 per cent. of silica and 9 per cent. of 'other bases,' against 58 per cent. and 6 per cent. respectively in the porcelain. The composition, therefore, of the two bodies is nearly the same: the clay, while it contains more iron-oxide and lime than the porcelain, is poorer in silica.

True porcelain has indeed never been made from any other materials than those so long employed by the Chinese and first described by the missionary, Père D'Entrecolles, nearly two hundred years ago.

The two essential elements in the composition of porcelain are—(*a*) The hydrated silicate of alumina, which is provided by the white earthy clay known as kaolin or china-clay, a substance infusible at the highest temperature attainable by our furnaces (about 1500° C.); (*b*) The silicate of alumina and potash (or

more rarely soda), that is to say felspar. But the felspar is generally associated with some amount of both quartz and mica, and is itself in a more or less disintegrated condition. This is the substance known as petuntse or china-stone. It is fusible at the higher temperatures of the porcelain kiln.

Of those substances the first is an immediate product of the weathering of the felspar contained in granitic rocks; while the second, the petuntse, is nothing else than the granite (or allied rock) itself in a more or less weathered condition.

We see, then, that speaking generally, granite is the source of both the materials whose intimate mixture in the state of the finest comminution constitutes the paste of porcelain. It thus happens that it is only in regions of primitive rocks, far away as a rule from centres of industry and indeed from the usual sources of the clay used for fictile ware, that the materials essential for making porcelain are found. By the term granite we mean here a crystalline rock consisting of felspar, quartz, and mica, and we include in the term gneiss, which differs only in the arrangement of its constituents. The many varieties of rock that are named as sources of kaolin and petuntse, such as pegmatite, graphic granite, or growan-stone, are as a rule varieties of granite[1] distinguished by containing little or no mica, and above all by the absence of iron in appreciable quantity. As felspar is also the sole or at least the principal element in the glaze with which porcelain is covered, it will be seen that it is the mineral with which we are above all concerned.

Now, of the three minerals that enter into the constitution of these granitic rocks (the others are quartz

[1] The china-stone of Cornwall might, in part at least, be claimed as an old volcanic rock, and that used in the Imari district of Japan is distinctly of volcanic origin. Both these rocks, however, consist essentially of a mixture of quartz and felspar.

and mica), felspar is the one most easily acted on by air and water. The carbonic acid which is always present in the surface-water gradually removes the alkaline constituents in the form of soluble carbonates, the silicate of alumina which remains takes up and combines with a certain quantity of water, and in this form it is washed down into hollows to form the beds of white crumbly clay known as kaolin. This is, of course, a somewhat general and theoretical statement of what happens. If we were to examine the actual position and geological relation to the surrounding rocks of the beds of kaolin in Cornwall and in the south-west of France, there might be some exceptions to be made and difficulties to explain. Where, indeed, as in many places in Cornwall, the kaolinisation has extended to great depth, the decomposition may have been caused by deep-seated agencies; in such cases the kaolin is often associated with minerals containing fluorine and boron.[1]

As for the other constituent of porcelain, the petuntse or china-stone, we have called it a disintegrated granite, and this is the condition in which it is usually excavated. It corresponds to the French *cailloux*, the stony or gravelly material as opposed to the clay. In French works it is not generally distinguished from felspar, and indeed some varieties of petuntse may contain little else. However, if pure felspar is used, the second constituent in granite or in petuntse, I mean quartz, will have to be added to our porcelain paste in the form of sand or powdered flint. The third constituent of the china-stone, the mica, is usually neglected: in many cases the mother rock contains but little, and what there is is eliminated in the washing.

[1] For further details consult the authorities quoted in the *Handbook* of the Jermyn Street Collection, p. 5; for sections showing the relation of the beds of kaolin to the surrounding rock, see Brongniart's *Traité des Arts Céramiques*, vol. i.

Mica is more fusible than felspar; the white variety, muscovite, is practically free from iron, and only from granite rocks containing this variety can petuntse suitable for the manufacture of porcelain be obtained. The importance of mica as an element of the Chinese petuntse has only recently been recognised (Vogt, *Comptes Rendus*, 1890, p. 43). As much as 40 per cent. of muscovite has been found in samples brought from China. The pegmatite of the Limoges district, on the other hand, contains only 30 per cent. of this white mica, and of this only a small portion passes into the paste. We have here, perhaps, the principal cause of the greater hardness and the higher softening-point of European compared with Oriental porcelain.

We shall see later on that this softer Chinese paste has many advantages, especially in its relation to the glaze and the enamels, but for the present we will continue to take the more 'severe' European porcelain as our type.

Let us consider what takes place during the firing of a paste of this latter description. After all the water, including that in combination in the kaolin, has been driven off, we have, as the temperature rises, an intimate mixture of two silicates, one of which, if heated alone, would be unaltered by any temperature at our command—this is the silicate of alumina derived from the kaolin; while the other is a fusible silicate of alumina and potash. There is also present a certain amount of free silica. There is reason to believe that at a certain point a chemical reaction takes place between these constituents, accompanied by a local rapid rise of temperature in the materials, the rise being due to this reaction. As a result there is a rearrangement of the molecules of the mass, although no complete fusion takes place. It is now, says M. Vernadsky (*Comptes Rendus*, 1890, p. 1377)—we are now following the account of his experiments—that the sub-crystalline

rods—the baculites of which we have already spoken—are formed. M. Vernadsky claims to have separated these rods from the glassy base by means of hydrofluoric acid, in which the former were insoluble. He found them to consist of a very basic silicate of alumina, containing as much as 70 per cent. of that earth, while the glassy base was chiefly composed of silica in combination with the potash and with a small quantity of alumina. In their optical properties the crystals or baculites resemble the mineral known as sillimanite, a natural silicate of alumina.

This is all that scientific research has so far been able to tell us of the intimate constitution of porcelain; but as far as it goes, it is evidence in favour of our claim that we are dealing with a definite substance, *sui generis*, and not merely with a casual mixture of certain superior kinds of clay, something, as we have said, between glass and stoneware.

There are certain other elements that enter at times into the composition of porcelain — magnesia, which may have been added to the paste in the form either of steatite or magnesite; and lime, derived either from gypsum or chalk. These additions generally tend to increase the fusibility of the paste, especially when accompanied by an additional dose of silica; but as their presence is not essential we are not concerned with these substances here.

The glazes used for porcelain are as a rule distinguished by their comparative infusibility and by their containing no lead. The composition of these glazes follows more or less that of the paste that they cover, with such modifications, however, as to allow of a somewhat lower fusing-point: as in the case of the paste, there is a harder and more refractory, and a softer and more fusible, type. The harder glazes are composed essentially of felspar, with the addition in most cases of silica, kaolin, and powdered fragments of porcelain. At

Sèvres, a natural rock, pegmatite, consisting chiefly of felspar, has been melted to form a glaze without further addition. Of late years, however, the introduction of a milder type of porcelain has necessitated the use of a more fusible glaze, containing a considerable quantity of lime, and it is a glaze of this latter type that has with few exceptions found favour in other districts where porcelain is made.

We have attempted in this chapter to give some idea of the nature of porcelain from a physical and chemical point of view, and in doing so have taken as our type the hard, refractory paste of Europe. When we come to describe the porcelain of the Chinese, we shall notice some important divergences from this type. We say nothing here of the soft-paste porcelains, seeing that so long as we confine ourselves to the question of chemical composition and physical properties, they lie entirely outside our definitions. It is only from the point of view of its history and of its artistic qualities that this group has any claim to the name of porcelain.

CHAPTER II

THE MATERIALS: MIXING, FASHIONING, AND FIRING

IT would be quite foreign to the scope and object of this book to attempt to describe in any detail the different processes that come into play in the manufacture of a piece of porcelain. There is the less cause for any such detailed treatment, inasmuch as the operations involved in the preparation of the paste and in the subsequent potting and firing do not essentially differ in the case of porcelain from those employed in the manufacture of other classes of pottery. The differences are rather those of degree —greater care is necessary in the selection of the materials, and these materials must be more finely ground and more intimately mixed. Again, the great heat required in the kilns necessitates, in the firing of porcelain, many precautions that are not called for in the case of earthenware or fayence. Without, however, some slight acquaintance with the processes of the manufacture, it would be impossible to avoid an amateurish and somewhat 'anecdotal' treatment of our subject. There are, indeed, many intimate features, many delicate shades of difference that distinguish the wares of various times and places, both in Europe and in the East, which can only be rationally explained by reference to the details of the manufacture.

At the present day there is only one district in Europe where true porcelain is manufactured on a large scale. This district lies on the western and

south-western border of the central granitic plateau of France, especially in the Limousin and in Berry. Again at Sèvres, for the last hundred years and more, a succession of able chemists has carried on a series of experiments on the composition and preparation of porcelain. It is no wonder, then, if we find that the literature concerned with these practical departments is almost entirely French. One result of this is a greater richness in technical terms than with us. We find in France names for the various implements and processes of the potter's art, that are something better than the workshop terms of the local potter. Again, the little that has been written in England upon the technology of pottery has been concerned chiefly with earthenware of Staffordshire.[1]

As for the English soft-paste porcelain of the eighteenth century, there is a remarkable dearth of information both as to its composition and as to its manufacture. We know in fact in much greater detail how the great potteries at King-te-chen were carried on at the same period, thanks to the letters of the Père D'Entrecolles, and to the information collected in Dr. Bushell's great work, *Oriental Ceramic Art* (New York, 1899. I shall always quote from the text edition).

The following technical notes are based chiefly on the processes in use either at Sèvres or in the great factories of the Limoges district.[2] To begin with the Kaolin, the 'premier' element in the composition of

[1] It is to the scattered notices and essays of Mr. William Burton that we must go for information in this country. In his new work on *English Porcelain* he does not treat upon this side of the subject.

[2] The most complete work on the processes of manufacture is now Dubreuil's *La Porcelaine*, Paris, 1885. It forms part forty-two in Fremy's *Encyclopédie Chimique*. This volume brings up to date and replaces in some measure the great work of Alexandre Brongniart, the *Traité des Arts Céramiques* (two volumes, with a quarto volume of plates), Paris, 1844. M. Georges Vogt in *La Porcelaine*, Paris, 1893, gives valuable details of the processes employed at Sèvres.

porcelain. The greatest care is taken to procure a pure white clay which should approach as near as possible to the more or less theoretical mineral kaolinite, *i.e.* to a hydrous silicate of alumina. With this object the rough china-clay brought from the pit is thrown into a large tank of water and broken up with wooden spades; the milky liquid is now decanted into a second tank, leaving behind most of the quartz and the other stony particles. On its way the soup-like liquid passes through the meshes of a sieve—these may be formed either of brass wire or sometimes of finely woven silk. On this sieve all but the finest particles are retained. The greater part of the kaolin is deposited in this second tank, but a certain portion still remains suspended in the liquid, which is again decanted; the remaining kaolin then settles down in the third tank, yielding the finest clay. To dry this slimy mass, it is first forced by hydraulic pumps into canvas bags, and these bags are then pressed between fluted wooden trays, strongly clamped together. We have now got a white chalky mass which may contain as much as 98 per cent. of the hydrated silicate of alumina.

The other materials, the china-stone[1] and the quartz, have first to be reduced to the finest powder. To effect this they may, to begin with, be roasted to effect disintegration, then crushed in a stone-breaking machine, and finally passed through the grinding-pan in which they are ground fine between large blocks of chert which rotate upon a pavement of the same stone. The finely ground materials have now to be mixed in suitable proportions either by the old process of 'slop-blending,' where the different 'slops,' each of known specific gravity, are run in due proportion into the big 'blending ark,' or, as is now usual in the case of fine wares, by weighing out the materials in a dry state.

[1] The *cailloux* of the French. This material is often described as felspar, but I think that quartz can seldom be completely absent.

On the relative amounts of the three elements, the china-clay, the china-stone, and the quartz, the nature of the porcelain after firing will depend. M. Vogt (*La Porcelaine*, Paris, 1893) gives a useful table showing the limits within which the materials may be varied. We may note that in the case of a normal china-stone or petuntse being used instead of felspar, very little additional quartz is required. These limits are: kaolin, 35 to 65 per cent.; felspar, 20 to 40 per cent.; and quartz, 15 to 25 per cent. The larger the percentage of the first material, the harder and more refractory will be the resultant porcelain.

This question of the composition of the paste has been the subject of many experiments lately at Sèvres. A somewhat animated discussion has raged around it. M. Vogt, who is the director of the technical department in the National Porcelain Works, is well qualified to speak on the subject. We shall not hesitate then to avail ourselves of the conclusions which he arrives at, the more so as they put tersely some important points of which we shall see the importance later on. I refer especially to the relations of the glazes and the coloured decorations to the subjacent paste.

These are, then, the results that M. Vogt arrives at:—

The two extreme types of porcelain, one with 65 per cent. of kaolin and the other with only 35 per cent., when taken from the kiln do not differ in appearance, though one has been subject to a temperature of 1500° C. to ensure vitrification and the other to only 1350° C. Their physical properties, however, are very different. The first, rich in alumina derived from the excess of kaolin, stands without injury variations of temperature, it suits well with a glaze made from felspar, a glaze hard enough to resist the point of a knife. These are excellent qualities for domestic use, but such porcelain does not lend itself well to artistic decoration.

At the high temperature required in this case in the firing, the colours of the paste and of the glazes assume dull and tame hues, so as to offer little resource to the artist. In a word, in that part of the decoration that has to be subjected to the full heat of the kiln, the artist has command only of a restricted and relatively dull palette. Again, in the decoration of the muffle-stove the vitrifiable enamels do not become incorporated with the glaze on which they rest. If a decoration in opaque or translucent enamels is attempted, these enamels are apt to split off, carrying with them a part of the glaze. To sum up: the porcelain of which the hard paste of Sèvres, introduced by Brogniart, may be regarded as a type, though excellent for domestic use, is incapable of receiving a brilliant decoration.

Porcelain of the second type, more silicious and less aluminous, is fired at a lower temperature. In order to get a glaze sufficiently fusible to melt at such a temperature to a fine uniform surface, it is necessary to introduce a certain amount of lime into its composition; by this the glaze is rendered at the same time a little softer. But now the lower temperature of the fire will allow of a greater variety and greater brilliancy in the colours either combined with or used under the glaze. When we come to the muffle-fire we can employ enamels of the widest range of colour, yielding a brilliant decoration. On the other hand, this type of porcelain offers less resistance than the other to the action of hard bodies and to rapid changes of temperature—enough resistance, however, so M. Vogt thinks, for all ordinary usages. It is to this type that the porcelain of China, and Japan, as well as the 'new porcelain' of Sèvres belongs. The latter comes nearer to the porcelain of the East than any other European ware. Finally, M. Vogt points out that most of the other European porcelains, those made in the Limoges

district, in Germany and in Denmark, are of an intermediate type, and that they allow the use of either a felspathic or of a calcareous glaze (Vogt, *La Porcelaine*, pp. 144 *seq.*).[1]

To return to our raw materials, which we may now suppose to be weighed out in a dry state in the required proportions. These are once more thoroughly mixed with water to form the slip or *barbotine*, which is again passed through a fine sieve. To remove any particles of iron which may have come from the machinery or elsewhere, and which if allowed to remain would form unsightly stains on the finished ware, it is usual to pass the slip at this stage through a vessel in which a number of horse-shoe magnets are suspended. In some of the large French factories a more complicated machine is used for this purpose. The superfluous water has now to be removed either by evaporation or by pressure between canvas bags in the manner described above. The paste may then be passed through a pug-mill to render it uniform in consistency.

A curious question arises with regard to the prepared clay. There was formerly a widespread idea, which may contain an element of truth, that instead of handing the clay at once to the potter, it should be kept, under certain conditions, for a long space of time that it may undergo a process of 'aging' and fermentation. By the 'aging,' the working qualities, especially of a 'short' or non-plastic paste (such as that in use at Sèvres in the eighteenth century, in making the *pâte tendre*), were doubtless increased, the more so when the clay was at intervals subjected to fresh kneading and watering. With regard to the long periods for which the clay was kept by the Chinese, the most exaggerated statements were formerly made. Mr.

[1] I should, however, be inclined to class not only much of the porcelain of Japan, but some of that made in Germany and in south-west France, rather in the 'severe' kaolinic than in the intermediary class of M. Vogt.

William Burton is of opinion that there may be in some cases an evolution of carbonic acid and sulphuretted hydrogen when natural plastic clays are used, for these may contain both vegetable remains and small quantities of iron pyrites. But the change, he thinks, is chiefly a physical one, due to the settling down of the mass. Might there not also, I would suggest, be a change of a more intimate nature, due to the formation of gelatinous silica and perhaps also of fresh alkaline or other silicates, among these minutely comminuted particles of various materials now freshly brought together? We know very little of the conditions that give to natural clays their peculiar unctuous quality and their plasticity.

We come now to what has been called the 'shaping' of the clay, using that word as an equivalent to the French *façonnage* to include all the processes, throwing on the wheel, turning of the lathe, 'pressing' and 'casting,' by which the desired form is given to the vessel.

The POTTER'S WHEEL, perhaps the most ancient of all mechanical contrivances, is still largely used in the shaping of porcelain, and that, too, in a simple form which differs little from that employed three or four thousand years ago in Egypt,[1] and perhaps for nearly as long a period in China. From an æsthetic standpoint, the wheel holds the same relation to the art of the potter as the brush does to that of the painter. It is perhaps a just cause of reproach against that branch of the ceramic art with which we are now concerned,

[1] We can, however, distinguish, in the tomb paintings of the Middle Empire, an earlier form without the lower table. This earlier type, moved by hand from the upper table, was that used by the Greeks at least as late as the sixth century B.C., and a similar primitive wheel is still used in India. On later Egyptian monuments of Ptolemaic time, the potter is seen moving the wheel by pressing his foot on a second lower table, as now at Sèvres and elsewhere. Both forms of wheel appear to have been used by the Italian potters of the Renaissance.

that so comparatively little use is made of the potter's wheel. Not only in Europe, but for long ages in China also, the use of the wheel, for many classes of vessels, has been replaced by various processes of moulding. With us, but not in the East, a third process, that of 'casting' with liquid slip, is largely used. But when made either by casting or moulding, the hand of the potter is not seen in the shape of the finished vessel. By means of the wheel alone do we get the full expression of the peculiar qualities of a plastic material. This was recognised by the Greeks, when the potter who made the vase signed his name by the side of the painter who decorated it. This it is that gives a certain charm to the roughest earthenware which we may look for in vain in the most elaborately decorated specimen of either Chinese or European porcelain.

The clay as it comes from the filter-presses or from the drying-beds is subjected to a series of kneading processes to ensure uniformity of texture. The last of these is the 'slapping,' when the clay is made up into hollow balls, and thrown vigorously on to a board until all bubbles and irregularities of texture are removed.

The thrower's wheel is essentially a revolving vertical spindle, with a small round table at the top, beside which the thrower sits. The clay is handed to him in balls, and he throws it upon the whirling table between his knees. The table is put into motion either directly by the pressure of the workman's foot on a lower table, or by some arrangement of straps and pedals. If the movement is given by the potter himself, as is still the case at Sèvres, and to some extent in China, there is the advantage that a more delicate and intimate control of the speed is possible. The movement of the clay under the potter's hand is instinctively regulated by him. Every one has seen

and marvelled at the wonderful process. The clay is first drawn up into a pillar, and then depressed into a flat cake, so that the circular arrangement of the particles may spread through the whole mass. The thrower then opens the hollow of the vessel with his thumbs, and proceeds to give it the desired shape, moistening his hands at intervals by dipping them into the slip. Small pieces are shaped between the thumb and first finger, either of one or of both hands. For larger pieces the whole hand and wrist is called into play, with the assistance, it may be, of a sponge. Still larger vessels are built up by piling on to the circular edge as it revolves strips of the clay. Delicacy of hand is of the greatest importance—the pressure applied and the movements of the fingers must be regulated by the nature of the clay, and especially by its greater or lesser plasticity. It is essential that the workman should not only press evenly and steadily on the clay as it rises, but that the speed of the rotation should have a definite relation to the rate at which he raises his hands. With a 'fat' or unctuous clay especially any irregularity of pressure will betray itself, and the marks will be more prominent after firing. This is the origin of the spiral ridges that we often see on the surface not only of common earthenware, but sometimes of high-class porcelain. To this cause are due the rings so characteristic of Plymouth porcelain; this 'wreathing' or '*vissage*' is sometimes seen on Chinese porcelain also.

When the thrower has finished his vessel, it is cut off from the table by a piece of thread or by a brass wire, and taken to the stoveroom to dry and harden. When sufficiently dry the vessel is placed on a lathe, and the turner shaves off all superfluous clay. The finer mouldings (using the word here in its architectural sense) may also be given at this stage, and sometimes the surface is shaped by a 'profile' of steel (it may be

a piece from the blade of an old saw), which cuts the surface down to the desired shape. The shavings are carefully preserved and returned to the slip-house, to be blended with the new clay, the working qualities of which are thereby improved.

There are certain parts, especially handles, spouts, and projecting ornaments, which must in all cases be separately moulded. The foot also, in the case of large vases, is separately prepared and subsequently attached. These parts are made in plaster moulds by the 'handler,' whose duty it now is to fix them to the vase. Carefully marking the exact place, he spreads on it a thin layer of slip with a spatula, and then presses home the handle or other appendage. Should, however, the two surfaces be dry and absorbent, it may be necessary to add some gum to the slip thus employed. A similar process, but one requiring greater care and skill, is that of fixing together the separate pieces of large vases and figures. This is done in the way we have already described in the case of the handles and spouts—that is by applying a coating of slip to the parts to be joined.

It is at this stage that any decorations in relief that may be required are applied to the surface. These are often made in flat moulds, and to fix them it is enough to run a little water from a camel's hair pencil behind the ornament after adjusting it to its proper place. These processes of fitting on of appendages and ornaments are included by the French under the term *garniture*.

MOULDING AND PRESSING.—It is evident that only vessels of a cylindrical or conical form, or, more exactly, such as have a circular section when divided horizontally, can be formed on the wheel. To produce any other form, the vessel must be either shaped directly by the hand or made in some kind of mould. The use of moulds for pottery is as old, if not older than that

of the wheel. It was in this way that the *Ushabti* figures of the old Egyptians were made, and many of these date back to the Early Empire. So in China, the further back we go, the more the use of moulds seems to have prevailed. I take from the excellent article on the manufacture of pottery in the *Penny Cyclopædia* the following account of the process in use in England at the beginning of the last century:—

'The mould is made in two parts, and each is separately filled by laying in a cake of clay which has been beaten out to the proper thickness on a wet plaster-block; it is pressed into the mould by repeated blows from a ball of wet sponge, then squeezed into all the angular parts and smoothed with sponge, wet leather, and horn. When both sides of the moulds are thus lined with clay, they are joined together, and the man lays a roll of clay along the inside of the joining, which he works down until the whole is smooth and solid.' The mould is then carried into a stoveroom, and the plaster here absorbs the moisture so as to release the clay. The contents are carefully taken out, and the empty mould returned to the stove previous to being filled again. The seam that remains on the outside of vessels after fitting the two parts together[1] is removed by scraping and burnishing with wet horn; the handles and other appendages are then attached.

This is the process that is called 'hollow-ware pressing' or 'squeezing.' In 'flat-ware pressing' the mould is used to give the shape to the inside of the vessel only. The mould is placed on the extremity of the 'whirler,' a vertical revolving spindle provided with a circular table, similar to that of the thrower's wheel. The plate-maker takes a cake of clay, which he has previously flattened out with his 'batter,' places it on the mould, and presses down with his hand. The

[1] This seam is often visible on vases of old Chinese porcelain, and may be taken as a sign that the object has been moulded.

upper surface of the cake of clay (what will ultimately be the bottom of the plate) is now shaped by an earthenware 'profile.' The mould is now taken off the whirler and at once replaced by another. Flat-ware, especially when greater finish is required, is also made in a double mould, and the clay may then be first thrown on the wheel so as to approximate to the shape required before being placed in the mould.

Processes very similar to the hollow and flat-ware pressing are largely used by the Chinese. Dr. Bushell has unearthed a passage from a technical work, written in the time of the Chou dynasty, more than two thousand years ago, in which a distinction is made between the ordinary potters who worked with the wheel, and the moulders who made oblong bowls and sacrificial dishes. In a somewhat later work (19-90 A.D.) the writer notes both the advantage resulting from regularity of size, and the obstacles arising from the shrinkage of the parts in firing, when vessels are made in moulds.[1]

CASTING.—There is yet another process which is largely resorted to in European works, but which appears to be unknown to the Chinese. It depends upon the rapidity with which dry plaster of Paris will absorb the water from a slip of creamy consistency, without allowing any of the solid particles to pass along with the water absorbed. The slip-mixture is poured into the plaster mould, which at once absorbs the water, leaving a uniform deposit upon the surface of the mould. After pouring or otherwise drawing off the water, a second and thicker slip may be added so as to form a second layer. The paste of the porcelain so prepared is likely to be of a lighter and more porous consistency than when made by throwing or pressing. This process was used in the eighteenth century at

[1] Porcelain in China followed, as we shall see, in the wake of the more early developed arts of the bronze-caster and the jade-carver. Hence the prevalence in the early wares of shapes unsuitable to the wheel.

Derby, and doubtless elsewhere, and it was preferred to moulding for making statuettes. Some account of it is given by Haslem, a good practical authority, in his *Old Derby China*. For small objects, 'casting' has long been employed in France, and more lately Ebelmen and Regnault have so improved the process, that vessels of all shapes and dimensions are made by it. This has been rendered possible by the introduction of compressed air into the interior of the vessel, by which means the paste is kept in position until it is sufficiently dry to support itself. A still better way of doing this is to exhaust the air *on the outside*, by placing the mould in an air-pump; the upper part can then be left open, and the whole operation is under the eye of the workman. M. Vogt (*La Porcelaine*, pp. 157 *seq.*) laments that in France the increased use of these mechanical processes had so reduced the demand for skilful potters, that the race is nearly extinct.

FIRING AND FURNACES.—So far in our treatment of the operations involved in the manufacture of porcelain, the same general description has been applicable, with trifling exceptions, to the processes in use both in Europe and in the far East, and to soft as well as to hard paste. But now that we have to describe the firing of the ware, a division into three classes is necessary:—

1st. The Chinese system. This is the simplest plan. The glaze is applied at once to the air-dried ware, which is then subjected to but one firing—that of the '*grand feu*.'

2nd. The French system for hard paste. The unglazed vessel is exposed to a heat varying from dull to full red, generally in the dome over the main body of the furnace. It is then glazed, and again fired to the full point required by the paste. This is essentially a French process, and the preliminary fire is known as the *feu dégourdi*.

3rd. The English system used for bone pastes. In this case it is the first firing that is the most severe. The 'biscuit oven,' therefore, in which this is effected, must not be confused with the *feu dégourdi* just mentioned. After dipping, the ware is heated again in the 'glozing' or glazing oven, but only to a temperature sufficient to melt the glaze.

In the case of ware decorated with enamel colours over the glaze, there will be required in all these cases one or more additional firings at comparatively low temperatures in the muffle-stove.

The furnaces, ovens, or kilns in which porcelain is fired are always of the reverberatory type; that is to say, the fuel is burned in a separate chamber or fireplace, and the products of combustion pass over or among the ware that is being fired. Such furnaces differ on the one hand from the arrangement in a blast furnace, or that often used in the burning of bricks, where the fuel is mixed with the material to be heated, and on the other hand from the muffle-stove, where the object exposed to the heat is protected from the direct flame by the box of fireclay or iron in which it is placed.

Kilns of many shapes and sizes have been used for firing porcelain, but they may most of them be included in one or the other of the following broad classes.

1st. The old bee-hive ovens of China, the use of which appears to have been abandoned in that country by the end of the seventeenth century. These ovens were generally small, in some cases only holding one vase. A row of them may be heated from one fireplace, and they are then built on a rising slope. This type has survived to the present day in Japan.

2nd. The oblong horizontal furnaces, often of considerable dimensions, used during the present dynasty in China. They resemble in section the ordinary type of reverberatory furnace found in metallurgical works. A very similar form was long employed at Meissen.

3rd. The large conical furnaces, now in general use in the porcelain factories of Europe. They may be heated by either direct or by reversed flame.[1]

In China the fuel is generally pinewood, in billets of uniform size. In many European kilns wood is still used: birchwood, cut in lengths of fifteen to twenty inches, is the only fuel used at the present day at Sèvres. In England, however, the difficulties attendant on the use of coal appear to have been overcome.

The reader will find in the third volume of Brongniart's great work (*Traité des Arts Céramiques*, Paris, 1877) several plates giving plans and sections of all these types of furnaces. From a careful examination of these engravings more is to be learned than from any amount of verbal description. A thorough grasp of the process of firing is of the greatest assistance in understanding the problems and difficulties that arise in the manufacture of porcelain, and we shall have to return to the subject when we come to treat of the several wares.

Whatever differences there may be in the shape of the furnaces, when it comes to filling the interior with the ware to be baked, there is one precaution which has been adopted in nearly every country.[2] The ware must be protected from the direct heat of the flame by means of a case of fireclay in which it is placed. These are the seggars (French *cassettes*; the process of filling and arranging them is called *encastage*), to the preparation of which so important a department has to be set apart in all porcelain works, and whose manufacture adds so much to the working expenses.

The seggar proper is a cylindrical pan of fireclay, in shape and size like a hatbox. They are piled, in the furnace, one over the other, and these piles or 'bungs'

[1] I think that this is a more practical division than the one made by M. Vogt and adopted by Dr. Bushell.

[2] An important exception is to be noted in the case of the firing of large vases in China.

are arranged in the furnace so as to allow a free circulation of the hot gases between them, but otherwise they are packed as closely together as possible. These seggars may be used several times over. When broken, the fragments are ground up and mixed with fresh fire-clay or *argile-plastique* to form new cases—without this addition the clay would be too plastic or 'fat' for the purpose. The greatest precautions are taken in the packing of the seggars in the furnace. The giving way of one pile from any inaccuracy in the arrangement may destroy the contents of the whole oven. So again infinite care must be taken in the arrangement and support of the objects in each seggar. The bottom is covered with ground flint or other infusible material, and the vessel is supported, when necessary, by various forms of struts, props, or crow-claws, which sometimes leave their mark on the base or side of the finished object. In spite of these precautions, a large quantity of defective pieces or 'wasters' are produced in all works, and these are usually cast aside. The finding of such fragments in after days is sometimes the only proof we have that porcelain or pottery has formerly been made at the spot. But the proof is final, for defective pieces and 'crow-claws' are not objects likely to have been imported from a distance. Again, the indelible marks left on the porcelain, either on the edge which rested directly on the seggar or at the points where the object was supported by the crow-claws, often give valuable hints as to the *provenance* of the piece in question.[1] In the case of valuable wares these rough edges and marks are removed as far as possible by grinding on a small wheel, and then polishing the surface with pumice or with putty.

[1] A good instance of the first case is the finding of crow-claws in the rubbish-heaps of Fostât or Old Cairo. As to the method of support indicating the place of origin, see what is said below about the celadon ware of Siam.

CHAPTER III

GLAZES

BEFORE attacking the somewhat complicated subject of the nature and composition of glazes, it will be well to take up again the thread of the mechanical processes that are involved in the making of a piece of porcelain.

The materials that enter into the glaze are reduced to the finest powder in mills similar to those in which the china-stone and flint are ground for the preparation of the paste. If any substance soluble in water, such as borax or salts of the alkalis, enter into the composition of the glaze, these must be first partially fused in combination with the other materials to form a *frit*, a kind of imperfect glass. These frits, which enter so largely into the composition of soft-paste porcelain, are formed with the object of bringing the soluble constituents into an insoluble form before mixing with water to form the slip. There are indeed other practical reasons that render a preliminary partial fusion desirable.

The finely ground elements of the glaze, mixed in due proportion, are worked up with water to form a creamlike slip into which the vessel to be glazed is now dipped. In China, in many cases, the glaze-slip is blown upon the surface in the form of a spray. This is done by means of a bamboo tube, covered at one end by a piece of silk gauze, through which the liquid is projected by the breath of the operator (French, *insufflation*); in other cases the glaze may be painted on

with a brush. In China, as we have mentioned, the glaze-slip is generally applied to the raw surface of the thoroughly dried but unbaked ware, but in other countries there is, almost without exception, a preliminary firing of greater or less degree to produce a biscuit.

We shall restrict the use of the word glaze to the vitreous coating applied directly to the surface of the raw paste or of the biscuit to enhance the decorative effect of the ware, and with the more prosaic object of allowing the surface to be easily kept clean. In the case of porcelain this coating is always more or less transparent.[1] There is here no necessity for concealing the natural white colour of the paste. In the case of many kinds of pottery, however, as in the 'enamelled fayence' of Delft and Italy, the glaze is rendered opaque by the addition of oxide of tin, so that the ill-favoured ground is concealed by a white shiny surface which may be made to resemble closely the natural surface of porcelain. A glaze of this kind is often called an enamel, but as we are not concerned with such an expedient we shall confine the use of that word to the various forms in which a vitreous decoration, whether translucent or opaque, is *superimposed upon the glaze* and fused into it, more or less thoroughly, by a subsequent firing in a muffle furnace.

The English word 'glaze' is only another form of the word 'glass,' and we may say at once that, in composition at least, there is often little difference between the two substances. The French word for 'glaze' is *couverte* or *vernis*; the last term applies well to the thin skin of glaze found on Greek pottery. The Chinese have several expressions, but it is a curious fact that the characters with which most of these terms are written contain the radical for 'oil,' and indeed the word 'oil' itself is often used in the sense of 'glaze.'

[1] There is only one exception of any importance—the porcelain of Chantilly, much of which has an opaque stanniferous glaze.

Mr. Rix puts it well when he says that the glaze is to the enameller of porcelain what his canvas is to the painter; while in the case of a decoration '*sous couverte*,' the glaze corresponds to the varnish which, while protecting his work, gives brilliancy to the colouring (*Journal of Society of Arts*, vol. xli.). It is, moreover, the vehicle by which the design is harmonised and rendered mellow. The effect is produced at once and endures practically for all time.

The hardness and fusibility of glazes differ widely, and they are conditioned by the nature of the wares that they cover. It is evident that there must be a close relation between the fusing-points of paste and glaze, and that the latter should be the more fusible of the two. The difference of melting-point should, however, not be too great. The melted glaze should rather, by penetrating into the already softened paste or by a chemical action upon its surface, form a more or less uniform mass with it. In cooling, the contraction of the glaze should follow that of the subjacent paste. This is a most important point; any discordance may lead to splitting, cracking, and 'crazing.'

The beauty of the surface of porcelain depends on the fact that the glaze has become intimately united with the paste during the long exposure of both to a high temperature. We should not be conscious, in regarding a fine specimen of porcelain, of a greater or less thickness of glass covering an opaque substance; we should rather see in it the polished surface of ivory or of some precious marble.

It would seem that it was the beauty of the glassy surface, enhancing the brilliancy of the colouring, rather than any practical advantage connected with its use, that first led to the application of glaze to pottery. The turquoise and green glazes of the Egyptians (the colour is derived from a silicate of copper along with soda and sometimes lime) were known to the men of

the Early Empire. They were applied to a fritlike mass of sand held together by silicate of soda, to which the name of porcelain has sometimes been very wrongly given. Objects of steatite, of slate, and even of rock crystal were sometimes covered with a coloured glaze of this kind, but it was never applied to the clay vessels in daily use. These were made, then as now, from the unctuous clay of the Nile bank. For this restriction there was a very good reason, namely that a glaze of this nature, composed chiefly of alkaline silicates, will not adhere to a base of ordinary clay. It was not until Ptolemaic and Roman times that, by the discovery or adoption of a glaze containing lead, the ancients were enabled to glaze their pottery. So in Assyria, the employment of glazes was almost confined to the decoration of the surface of brickwork, the bricks being of a loose and somewhat sandy texture.[1]

In these glazes, and indeed in much earlier examples from Babylonia, both tin and lead have been found. The respective virtues of the silicates of these metals were doubtless appreciated, that of tin to form a white opaque enamel hiding the material below, and that of lead to enable the glaze into which it enters to adhere to a paste formed of a plastic clay.

With the Chinese the aim was rather æsthetic than practical. They sought by means of the marvellous glazes that cover their ancient porcelain to imitate the surface of natural stones; their early celadons were in a measure intended to take the place of the precious green jade, so highly esteemed by them.

At the time when the manufacture of porcelain was first introduced from China there were (apart from the salt-glazed stoneware, which lies quite outside our inquiry) three classes of glaze in general use either in Europe or in the nearer East:—

[1] So we can infer from the magnificent wall decoration of the Achæmenian period brought home from Susa by M. Dieulafoi.

1. Glazes consisting essentially of alkaline silicates without either lead or tin. Such glazes could only be applied to a fritty silicious base, and in India and Persia their employment seems to have been a survival from Egyptian and Assyrian times.[1]

2. Opaque enamel glazes, the opacity being due to the presence of tin; a considerable amount of lead also is generally found in these glazes. We are not concerned here with the obscure origin of this group, but in the sixteenth century this enamelled fayence was in general use for the better class of table-ware. It includes the Italian majolica, the French fayence of Nevers and Rouen, and above all the earthenware of Delft.

3. The oily-looking lead glazes with which the common earthenwares were covered. These were essentially the glazes of the Middle Ages in Europe, and their employment could probably be traced back to the lead-glazed ware sparingly used by the Romans. We have already noticed the use of a similar glaze in Egypt as far back probably as Ptolemaic times.

There were practical objections to all these glazes. It is true that at Delft, by the use of the tin enamel, a ware could be turned out closely resembling, in external aspect, the blue and white porcelain of China, but the enamel was soft and would in time chip off at the edges, showing the dark earthy clay beneath. On the other hand, the alkaline glazes of the East were not much known in Europe; they can only be used upon a very tender and treacherous base. In India and Persia, however, a ware thus glazed still competes with the hard porcelain of the Far East. In spite of the great objections to the glazes of our third class, those containing lead—objections arising from

[1] A glaze of this nature was in the Saracenic East applied to a layer of fine white slip, which itself formed a coating on the coarse paste. Such a combination, often very difficult to distinguish from a tin enamel, we find on the wall-tiles of Persia and Damascus.

their softness and from the danger of poisoning to those employed in their manufacture—their use has tended rather to increase. Not only is lead the principal constituent of the glazes still universally used for common pottery, but it forms an important element in the glaze of our finer earthenwares as well as in that of those bone pastes which rank with us as porcelain.

The glaze which had been brought to perfection by the Chinese at an early period differs from all those yet mentioned by its hardness, its high fusing-point, and in its chemical composition. Speaking generally, the glaze of porcelain differs in composition from the paste which it covers only sufficiently to allow of its becoming completely liquid at the extreme heat of the furnace; and just as the paste of Chinese porcelain has a wider limit of variability than that made in Europe, but is on the whole of a 'milder' type than the latter, so we find that while the glazes of the Chinese are as a whole less refractory and not quite so hard, there is still a wide range of variation in these qualities.

If, then, we theoretically regard porcelain as a compound of a silicate of alumina with an alkaline silicate of the same base, we may say that the glaze of porcelain is formed by the latter body alone, that it is, in fact, merely a fused felspar. But as in the case of the paste, so in the glaze there is generally present an excess of silica, derived from the quartz contained in the petuntse or pegmatite, and this silica enters into combination with some other bases which are present in the constituents of the glaze, thereby increasing its fusibility and modifying the contraction in cooling. The most important of these additional bases is lime, so that the more fusible type may be called a calcareous, as opposed to a more refractory or purely felspathic glaze. As much as 21 per cent. of lime has been found in some Chinese glazes, the amount of alumina being proportionately reduced.

There is more or less lime in the glaze of most kinds of European hard porcelain, but the exceptionally hard and refractory paste made at Sèvres since the time of Brongniart is covered by a glaze of corresponding hardness from which that earth is absent. This hard paste has, however, of late been replaced in part by one of a milder type, and with this latter a calcareous glaze has been adopted even at Sèvres, the object of the change being, as we have said, to allow of a more brilliant decoration.

There is a perceptible difference in the aspect of these two types of glazes after firing. The hard, non-calcareous glaze has a slightly milky look. The softer calcareous type is more brilliant, and approaches in transparence and limpidity to the lead glazes of soft porcelain. A glaze of this last kind was used at Sèvres for a few years after the first introduction of the hard paste, and perhaps also at Dresden in quite early days.

The principal objection to a hard refractory glaze, such as that so long in use at Sèvres, arises from the difficulty of properly incorporating the enamel colours with its body. The restriction of the number of pigments that can be employed, both under and on the sufface of the glaze, in consequence of the high temperature at which the latter melts, is another drawback. The dulness, the 'painted on' look of so much of the decoration on European hard paste porcelain, is in great measure a consequence of the employment of a glaze that is only softened at a high temperature. As an example of a medium type of glaze we give the composition of that used at Berlin in 1836. This consisted of kaolin, 31 per cent.; quartz, 43 per cent.; gypsum, 14 per cent.; and ground porcelain, 12 per cent. A glaze long in use at Dresden is of a very similar character. Felspar, it will be seen, does not enter into its composition, and such a glaze can contain but little potash or soda. With this we may contrast the hard

glaze of Sèvres, composed simply of ground pegmatite, a rock consisting mainly of felspar. This glaze yields on analysis 74 per cent. of silica, 17 per cent. of alumina, and as much as 8 per cent. of potash.

The glaze on Chinese porcelain is prepared by mixing certain special varieties of petuntse with an impure lime, prepared by burning limestone with dry fern as fuel. It contains, as we have seen, from 15 to 21 per cent. of lime, 5 to 6 per cent. of alkalis, 11 per cent. of alumina, and 66 per cent. of silica.

We give these examples to illustrate the principal types of glazes used for hard paste porcelain. It will be noticed that the constituents are drawn from widely different sources.

The glazes of soft paste porcelain always contain a large amount both of lead and of potash or soda, so that they approximate in composition to a flint glass. The alkalis, generally introduced as carbonates, necessitate a previous fritting of part at least of the materials. Boracic acid plays an important part in the glaze of most modern English wares: it is generally introduced in the form of borate of soda or borax. This acid replaces in part the silica, just as in the paste the glassy materials are replaced by bone-earth.

CHAPTER IV

DECORATION BY MEANS OF COLOUR

IF we were treating the subject purely from a practical point of view, with the glazing and firing of a piece of porcelain the manufacture might be held to be terminated. This would be strictly true, for instance, of the white porcelain of Berlin, so largely used in the chemical laboratory; a great deal, too, of the china in domestic use receives no decoration of any kind. But for us there remains still to examine the element of colour and the way in which it is applied to the decoration of porcelain.

This is effected in three different ways: by the employment of coloured glazes; by painting on the surface of the paste before the glaze is applied (this is the decoration *sous couverte*); and finally by coloured enamels applied to the surface of the glaze. These methods may be combined, but as this is rarely the case, such a division forms the basis of a convenient classification, more especially for the wares of China and Japan.

In the case of both the paste and of the glaze, we have been dealing with a restricted group of elements, with alumina, lime, potash and soda; and apart from impurities unintentionally introduced, all the combinations of these bodies are colourless. We have now to consider the effect of introducing certain of the heavy metallic bases which combine with the excess of silica to form coloured silicates.

DECORATION BY COLOUR

The metals that give to Oriental porcelain its brilliant hues are few in number. Indeed, in all lands and at all times, iron, copper, cobalt, and manganese have been the principal sources of colour in the decoration not only of porcelain, but of most other kinds of pottery. As equal to these four metals in importance, but not strictly to be classed as colouring materials, we may place tin, the source of most opaque whites, and lead, which is the main fluxing element for our enamels. Next in importance to these metals come antimony, long known to the Chinese as a source of yellow, and finally, but this last only since the beginning of the eighteenth century, gold, as the source of a red pigment.[1] This exhausts the list, not only for the Far East, but for all the pottery of Europe up to the end of the eighteenth century.

It was in a period of artistic decline that the advance of chemical knowledge led to the introduction of other colours, derived both from new metallic bases and from fresh combinations of those already known. By far the most important of these new colours are those derived from the salts of chromium, but uranium and other rare metals have also been called into use. As with the sister art of painting, the beauty and harmony of the effects produced have not kept pace with the enlargement of the palette—the result was rather to accentuate the decline that had already set in from other causes.

There are two metals, iron and copper, that have always been of pre-eminent importance as sources of colour. Each of them forms two series of combinations differing entirely in hue, so that were we confined to the use of these two metals, our palette would still be a fairly complete one.

The protoxide of copper, especially when a certain

[1] Metallic gold has, of course, been applied to the decoration of porcelain in all countries.

amount of lime and of soda is present, forms a series of beautiful blue and green silicates. When the proportion of oxygen is decreased, as happens when the surface of the ware is exposed in the kiln to a reducing flame, a suboxide of copper is formed, which gives a deep and more or less opaque red hue to the glaze. So in the case of iron, the so-called sesqui-oxide is perhaps the most abundant source of colouring matter in the mineral kingdom: the colours produced by it range from pale yellow to orange, brown, and full red. When, however, the iron is present as a protoxide, the colour given to the glaze is entirely altered; it ranges from a pale sea-green to a deep olive.

The remaining two elements that have long played an important part in the decoration of pottery are cobalt and manganese. These metals, in the form of silicates, yield the well-known series of blues and purples. One important source of the famous underglaze blue of China and Japan is a black mineral known to us as wad, which occurs in earthy to stony concretions. This wad contains oxides of both cobalt and manganese, and the quality of the blue obtained from it depends in great measure upon the proportion in which the two metals occur.

The employment of antimony is comparatively rare, but, generally in combination with iron, it is an important source of yellow. In spite of the volatile nature of most of its salts, in the presence of silica this metal is able to withstand a high temperature.

But before considering the application of colour to the glaze, we must mention briefly a method of decoration which was in great favour at Sèvres some years ago—I mean the application of colour to the paste itself. This was done long ago by Wedgwood, sometimes to the whole mass of the paste, as was the case with his jasper ware, which some authorities class as a true porcelain. At Sèvres these coloured pastes

have been generally applied to the surface only, in thin layers, or even as mere coats of paint. When laid on in successive coats, as in the so-called *pâte-sur-pâte*, the amount of colouring matter need not be large, from 2 to 5 per cent. When larger proportions of coloured oxides are mixed with the *pâte*, and this is painted on with a brush, the process differs little from the ordinary decoration under the glaze, into which it indeed may be said to pass. Coloured pastes of this description have never been employed by the Chinese, and it is not possible to obtain much brilliancy or decorative effect by their use. They are, indeed, foreign to the nature of porcelain, sacrificing the brilliant white ground which should be the basis of all decorative schemes.

When the colouring matter is subjacent to the glaze it must be of a nature to withstand the full heat of the subsequent firing; we are restricted therefore to colours '*à grand feu*.' This practically confines us to cobalt and to certain combinations of iron and copper, as far as the 'old palette' is concerned. At Sèvres and elsewhere other metals have been made use of whose silicates withstand the extreme temperature of the kiln. By the use of chromium we have command of many shades of green. If to an oxide of tin we add a minute quantity of the sesqui-oxide of chromium, we can obtain, in the presence of lime, many shades from rose to purple; and a mixture of cobalt and chromium produces a fine black. There is, however, as yet no satisfactory yellow pigment known that will withstand the *grand feu*. At the best we can get a straw colour from certain ores of tungsten and titanium, and from uranium a yellow deeper in tint but uncertain in application.

The majority of the colours we have mentioned require a more or less oxidising flame for their full development. There are, however, two most important groups of coloured glazes, long the monopoly of the Chinese, but now successfully imitated in France and

elsewhere, which require, for a term at least, to be subjected to a reducing flame.

The first of these glazes is the well-known CELADON, using that term in its proper and restricted sense, for certain shades of greyish green. The celadon of the Chinese is produced by the presence of a small quantity, about two per cent., of protoxide of iron in the glaze. An oxidising flame would change this protoxide to the yellow sesqui-oxide. We may note that a celadon of good tint can only be produced when a considerable quantity of lime is present in the glaze.

The other group, depending also upon a reducing flame, is constituted by the famous SANG DE BŒUF and FLAMBÉ glazes.

The colour of the first is given by the red sub-oxide of copper, chiefly suspended in the glaze. In the case of the *flambé* or 'transmutation' glazes, the strange caprices of colour have their origin, in part at least, in the contrast of the red sub-oxide and the green silicate of copper. In the case of both these glazes everything depends on the regulation of the draught of the furnace in which they are fired. The French have lately been at great pains to master the difficulties attendant upon the development of the effects sought after, and some success has been attained not only on a porcelain ground as at Sèvres, but these glazes have also been applied to fayence at the Golfe St. Juan and elsewhere. It has been proved by some experiments made at Sèvres, that in the firing, the critical period, during which so much depends upon the regulation of the draught, is *just before* the melting of the glaze. Once melted the glaze not only forms an impervious cover which prevents the smoky flame from discolouring the paste below, but the glaze itself is no longer sensitive to the action of the gases which surround it. It is therefore only during a short period preceding the moment when the glaze begins to melt,

that it is necessary to promote a smoky and reducing flame. This is a point of considerable practical importance.[1]

The application of the DECORATION UNDER THE GLAZE is essentially a Chinese method. To it we owe the important family of 'blue and white' ware. The superiority of the Chinese in the management of the blue colour has been attributed to various causes. The result is no doubt influenced not only by the constitution of both paste and glaze, but also by the fact that the colour is painted upon the *raw* paste.

An important factor also is the care exercised by the Chinese in the selection and preparation of the blue pigment, by which not only the desired intensity but the richness of hue is secured. The quality of the blue depends in great measure upon the presence of a small quantity of manganese in the cobalt ore employed.

The only other colour that the Chinese have succeeded in using under the glaze is the red derived from the sub-oxide of copper. The full development of this colour has for long been a lost art, but a less brilliant red from this source, often little better than a buff colour, is sometimes found in later examples combined with the blue.

In the application of colours under the glaze there is one difficulty that the Chinese have surmounted even in their commonest ware, and this is the tendency of the cobalt blue to dissolve and 'run' in the glaze, giving to the design a blurred and indistinct appearance. It would seem that the sharpness of outline depends upon the consistency of the glaze at the moment when it first melts. At that point the glaze should be viscous and

[1] The colour of the ruby glass in our thirteenth century windows has a very similar origin. In this case the art was lost and only in a measure recovered at a later period. As in the case of the Chinese glaze, the point was to seize the moment when the copper was first reduced and, in a minute state of division, was suspended in floccular masses in the glass.

not inclined to flow, and this is what occurs in the case of the highly calcareous glazes of the Chinese.

Before passing to the enamel colours, we must say something of a class of glazes which may be looked upon as to some extent of an intermediate character. These are the glazes associated with the 'San tsai,' the 'three colours' first used in combination by the Chinese.

These coloured glazes were applied, not, as is usually the case in China, to the raw paste, but they were, it would seem, painted on the surface after a preliminary firing. Being applied with a brush, the whole surface of the biscuit was not necessarily covered, and glazes of all these colours could be used upon the same piece of porcelain. Glazes of this class were rendered more fusible by the addition of a certain quantity of lead, and on this ground, and still more in their historical relation, as we shall see later on, these 'painted glazes' may be considered as a link connecting the old refractory glazes of the monochrome and 'blue and white' wares on the one hand, with the fusible enamels which were at a later time *superimposed* upon the glaze on the other.

'The three colours which are applied in this way by the Chinese are: (1) A turquoise blue derived from copper with the addition of some soda or potash. (2) The manganese purple, often described as aubergine. (3) A yellow prepared from an iron ore containing some amount of antimony. None of these colours would stand the full heat of the furnace, and for a reason which will be explained further on, they are known as the colours of the *demi grand feu*.[1]

COLOURED ENAMELS. We have now to describe

[1] With these colours a dark blue is sometimes associated. Is this derived like the turquoise from copper? It is a curious fact that we have here exactly the same range of colours that we find in the little glass bottles of Phœnician or Egyptian origin, with zig-zag patterns (1500-400 B.C.).

PLATE II. CHINESE MING PORCELAIN, BLACK GROUND

the decoration that is applied to the surface of the glaze. In these coloured enamels the colouring matter is dissolved in a flux which contains a large quantity of lead. The comparatively gentle heat at which such enamels fuse allows of the use of a much larger palette than is available for the decoration under the glaze.

It is well to point out at the outset the marked distinction in composition and in appearance between the brilliant enamels of the Chinese and the dull tints of the 'porcelain colours' found in the hard pastes of Meissen and Sèvres. To make clear the cause of this difference it will be necessary to enter into some little detail.

The colouring matter in the European enamels may amount to as much as a third part of the total amount of the flux with which they are incorporated. As there is not enough of this flux to dissolve the whole of the oxides, the enamel remains dull and opaque after firing. The flux, in fact, is only used as a vehicle to attach the colour to the surface of the porcelain. The effect in consequence is inferior in brilliancy to that obtained by the Chinese with their transparent enamels in which the metallic oxides, present in much smaller quantity, are thoroughly dissolved to form a glass. There is, unfortunately, a practical obstacle to the application of these glassy enamels to the hard pastes and glazes of Europe. It is impossible to ensure their firm adhesion to the subjacent glaze. The Chinese, however, do not appear to find any difficulty in effecting this. The following explanation has been given to account for the difference of behaviour:—the tendency of the enamel to split off in cooling, as has been proved by experiment, arises from the small amount of contraction at that time of the highly kaolinic paste, compared with that of the superimposed glassy enamel. The more silicious paste used by the Chinese contracts, on the contrary, at the same rate approximately as the

enamels that it carries, and these enamels may therefore be laid on in sufficient thickness without any risk of their subsequently splitting off.[1] To appreciate the difference in the decorative value of these two classes of enamels it is only necessary to compare the brilliant effect, say, of a piece of Chinese egg-shell of the time of Kien-lung with the tame surface of a contemporary Meissen plate, elaborately painted with landscapes or flowers.

The glassy enamels used by the Chinese resemble the pastes used for artificial jewellery. They are essentially silicates of lead and an alkali. The composition of the flux has to be modified to ensure the full development of the colour of the different metallic oxides which are either made up with it or added subsequently. But in a general way we may say that the colourless fluxes which form the basis of the coloured enamels are prepared by melting in a crucible a mixture of pure quartz sand and red lead, and adding more or less alkali. In certain cases the lead predominates, as when it is proposed to make an emerald green enamel by means of copper, or when the flux is to serve as a basis for the ruby colour given by a minute quantity of gold. On the other hand, if copper be added to a flux containing an excess of either soda or potash, we obtain a turquoise blue. A fine purple, again, can only be obtained from manganese with an alkaline flux; if too much lead is present only a brown tint is obtainable.

To melt these enamels and to ensure their adherence to the subjacent glaze another firing at a gentler temperature is necessary; indeed in many cases more than one such firing has to be resorted to. The comparatively high temperature required to develop the colour of one enamel may be sufficient to decompose or other-

[1] See Vogt, *La Porcelaine*, p. 219. The problem is really more complicated. For simplicity's sake we have ignored the changes that take place in the glaze that lies between the enamels and the paste.

wise damage another part of the decoration. The lowest temperature of all is that of the muffle-fire in which the gilding is fixed. This is therefore the last decoration to be added.

The oven in which these enamels are melted on to the surface of the already glazed porcelain is called a muffle. The ware in this case is protected from the direct action of the flame by the closed rectangular box of fireclay in which it is placed, like bread in a baker's oven. The muffle is placed over the fireplace of a rectangular furnace, and the flame plays round the sides in such a way as to ensure the uniform distribution of the heat. For the sake of greater cleanliness and the avoidance of dust, the pieces to be fired are placed upon tiles of porcelain rather than upon biscuit or fireclay supports. The temperature may vary from a dull to a full red heat (600° to 1000° C.), and the firing lasts from four to twelve hours.

We have already mentioned incidentally many of the so-called 'muffle-colours' or enamels. Those used in China were carefully studied some years ago by Ebelmen and Salvétat at Sèvres. It would appear that the opaque white of the Chinese is obtained from arsenic —the merits of the use of tin for this purpose appear to be unknown to them. The blacks are made from the already mentioned cobalt-manganese ore (wad), mixed with white lead—when oxide of copper is added a more lustrous black is obtained.[1] For the blue enamel, a very small quantity of cobalt suffices to give a brilliant colour. The various tints of the greens and blues derived from copper depend on the nature of the flux; of this we have already given an instance. Antimony in combination with lead gives a bright yellow, which tends to orange when a little iron is present; by the addition of more iron the colour of old bronze is

[1] The same result may be obtained by painting one colour over the other, as we find in the black ground of the *famille verte*.

imitated. Iron in the state of the sesqui-oxide is the source of many shades of red, but as this iron oxide will not readily combine with silica to form a transparent glass, it has to be applied as a more or less opaque paint, and thus differs from the other colours in being in perceptible relief. Hence the importance of the ruby red derived from gold, which was first introduced into China in the early part of the eighteenth century, and soon became the predominating colour in the decoration of the time (the *famille rose*).

The palette of the European enameller is a more extensive one, and each large porcelain manufactory has its book of recipes. The composition of the enamels and the relation of the metallic oxides to the fluxes employed have been systematically studied in more than one laboratory. It is only at Sèvres, however, that the results obtained have been made public. It has been the pride of successive generations of chemists—of Brongniart, of Salvétat, of Ebelmen, not to mention living men—to devise fresh sources of colour for the decoration of porcelain. First chromium, then nickel, cadmium, uranium, iridium, and platinum have been added to the list of metals from which enamel pigments have been derived. Among the colours of the muffle-stove the chief gain has perhaps been the discovery of the quality possessed by the oxide of zinc of altering the tints of other metallic oxides with which it is mixed.

CHAPTER V

THE PORCELAIN OF CHINA

Introductory—Classification—The Sung Dynasty (960-1279)—The Mongol or Yuan Dynasty (1280-1368).

'La porcelaine de la Chine! Cette porcelaine supérieure à toutes les porcelaines de la terre! Cette porcelaine qui a fait depuis des siècles, et sur tout le globe, des passionnés plus fous que dans toutes les autres branches de la curiosité. . . . Enfin cette matière terreuse façonnée dans les mains d'hommes en un objet de lumière, de doux coloris dans un luisant de pierre précieuse.'—EDMOND DE GONCOURT, 'La Maison d'un artiste.'

IN any work on porcelain it is something more than the premier place that must be given to the ware of China. We are dealing with an art Chinese in origin, and during a succession of many centuries Chinese in its development. It was only at a comparatively late time that the knowledge of this art spread over the whole civilised world. We in England have, as it were, acknowledged the pre-eminence of that country by adopting the word 'china' as an equivalent, more or less, to porcelain.[1]

It was under Imperial patronage that the art was developed in China, and the excellence of the porcelain of that country has in a measure varied with the taste and intelligence with which that patronage was exercised in different reigns. The native scholar and connoisseur has for ages been a collector of choice pieces,

[1] In Persia, where for three centuries at least the Chinese wares have been known and imitated, the word *chini* has almost the same connotation. See below for a discussion of the route by which this word reached England.

and his influence has always been exercised in a conservative direction. There is, indeed, in the whole world no such consistent *laudator temporis acti*, and it is this conservative spirit, resulting in a constant 'returning upon oneself,' that it is essential to bear in mind if we are to understand the involved relation of the old and the new in the history of the arts of China.

But the Chinese potter was not working only for the court or for the learned connoisseur, or again for the supply of the towns and villages. From the earliest times, or at least for the last thousand years, there has been a demand for his ware, small at first but slowly spreading, from the outer barbarian. Porcelain, or something akin to it, has been exported from China, by one path or another, from the time of the first Arab settlements at Canton and Kinsay in the eighth or ninth century; and thus a countervailing influence, acting in the direction of variety and change, at least as far as the decoration of the ware is concerned, has always been present. To give but two instances of this influence—we shall return to the subject later on: in the intimate connection of the Chinese court with Western Asia, and especially with Persia, in the thirteenth century, we may probably find the occasion of the first introduction into China of the blue decoration under the glaze; and with more certainty—the fact is indeed acknowledged by the Chinese—we may attribute the second great revolution in the decoration of porcelain, the use of enamel colours over the glaze, to European or Arab influence.

On the other hand, the decline that set in at the end of the eighteenth century was not a little hastened by the increased demand for ware decorated to suit the depraved taste of the 'Western barbarian.'

For in spite of his rigidity and his conservative spirit, the Chinese potter has always understood how to adapt his wares to the changing taste of his cus-

tomers. Indeed the variation in the decoration, the subtle *nuances* in colour and design, that enable us to distinguish between the Chinese porcelain exported to India, to Persia, and to the nations of the Christian west, might be made the basis of a most interesting study.

When we come to consider the various factories of porcelain that sprang up in Europe in the course of the eighteenth century, we shall find that what strikes the inquirer above all (in comparison with the kindred arts of the time) is the little we can observe in the way of development either in the technique or decoration of the wares. The art springs up full-blown; what history there is is concerned rather with an artistic decline. It is only in China that we can hope to trace the steps by which this special branch of the potter's art attained to the perfection that we find in the products of the eighteenth century, and this alone is a reason for dwelling, even in a treatment of the subject so general and brief as this must needs be, on what may seem to some mere antiquarian detail.

But there is another and perhaps even a more important reason for our trying to form some idea of what the earliest wares of the Chinese were like: unless we make some such endeavour we shall find it impossible to understand the later history of porcelain in that country. One point must be specially borne in mind when we are attempting to follow the order in which fresh styles and designs were introduced in China. When a new method of decoration had been adopted and had come into general use—the introduction of underglaze blue in early Ming times, and that of coloured enamels at a later period, are cases in point—this did not involve the abandonment of the older styles. There was a constant effort to maintain the old methods, and in the most flourishing times of the emperors Kang-he and Kien-lung, the series of great men who had charge

of the imperial works at King-te-chen, some of them practical potters themselves, were constantly occupied with the problems of reproducing the glazes, if not the pastes, of the earliest wares. During the reign of Yung-chêng (1723-1735), perhaps the culminating period in the history of Chinese porcelain, when Nien Hsi-yao was superintendent, a list was drawn up of fifty-seven varieties of porcelain made at King-te-chen. In this list the titles of all the old wares of the Sung dynasty are to be found, and to them the place of honour is evidently awarded (Bushell, chap. xii.). The names of some of these old wares, the Ko yao and the Kuan yao, for instance, are applied to porcelain in common use at the present day, an attribution based on the greater or less resemblance of this modern ware to the Sung porcelain, at least in the matter of the glazes.

It is only quite of late years that we in Europe have been able to make any clear distinction, not only between the different classes of Chinese porcelain, but between what is Chinese and what is not. A few years ago the most characteristic porcelain of Japan was classed as Chinese, while on the other hand Corea and even local English factories were credited with porcelain made and decorated in one or other of the former countries.

It is nearly two hundred years since the famous letters of the Jesuit missionary, the Père D'Entrecolles, were written, and these letters still remain our best source of information for the processes of manufacture at King-te-chen. There was little further information on the subject from the Chinese side[1] until, in 1856,

[1] During the eighteenth century, however, the French missionaries remained in friendly relation with the Chinese court, especially with the Emperor Kien-lung, a man of culture and a poet. The Père Amiot sent home not only letters with valuable information, but from time to time presents of porcelain from the emperor. He was in correspondence with the minister Bertin, who was himself a keen collector of porcelain. See the notes in the Catalogue of Bertin's sale, Paris, 1815.

Stanislas Julien translated part of a Chinese work treating chiefly of the same porcelain factory—this is the *King-te-chen Tao Lu*, a book which contains in addition some information about the history of the different wares. This translation was for many years the only native source of information available to students of Chinese porcelain, and many were the misconceptions and blunders in which these students were landed. The book was indeed accompanied by a preface and valuable notes by M. Salvétat, the porcelain expert of Sèvres, but Julien himself, though an eminent Chinese scholar, had no practical acquaintance either with the matter in hand or indeed with the country generally.

The beginning of a sounder knowledge of the subject was made when that collector of genius, the late Sir A. Wollaston Franks, published a catalogue of the private collection of Japanese and Chinese porcelain which he afterwards presented to the nation. His marvellous intuition and his vast experience enabled him to seize upon points of resemblance and difference which threw light upon the origin of the various wares, and to expose at the same time the inconsistencies of the arrangements then in vogue. He it was who first pointed out the general worthlessness, as a guide to the date or even the country of any piece of porcelain, of the name of dynasty and emperor which it might bear. His successor, Mr. C. H. Read, has well carried on the tradition. At the present moment the British Museum is one of the few places where an attempt has been made at a systematic arrangement of a representative collection of Chinese and Japanese porcelain.[1]

In the meantime in China itself, both in connection with the embassies at Pekin and among some of the merchants at Shanghai and other treaty ports, much information was being collected, and it was above all

[1] Thanks to the industry of the present curator, Herr Zimmermann, the same may now be said of the great collection at Dresden.

the merit of Franks to keep himself in communication with and to encourage all such research. Dr. Hirth, long in the service of the Chinese at Shanghai and elsewhere, has published a series of learned studies treating of the relation of the Chinese to the Roman empire, of the Arab traders during the Middle Ages, and of the early history of Chinese porcelain generally. But it is to a former member of our embassy at Pekin, to Dr. Bushell, that we are above all indebted for the throwing open of Chinese sources of information upon the history of porcelain. A worthy successor of the Père D'Entrecolles in his intimate acquaintance with the country and its language, Dr. Bushell is well abreast of the chemical and technical knowledge of the day, and his position as physician to our embassy at Pekin has given him access to information from the best Chinese sources, as well as to the treasures of many of the native collections of the capital.

Dr. Bushell has written the text to a sumptuously illustrated work, nominally a catalogue of the collection of porcelain formed by the late Mr. Walters of Philadelphia, and into this text he has woven all the vast wealth of material that he had accumulated during many years of study both at Pekin and in Europe. This work has thus superseded all other sources of information on the history and manufacture of Chinese porcelain. He has, in fact, ransacked all that has been written in China on these subjects, and his translations have this advantage over the works of Julien, that they are made by one who knows thoroughly the subject that the Chinese author is dealing with.

We must not forget the researches on the chemical and technical side of the subject by what we may call the school of Sèvres. To these workers we have made frequent reference in previous chapters. It is to the experiments and analyses of men such as Brongniart, Salvétat, Ebelmen, and Vogt, that we are indebted for

our knowledge of the chemical constitution of the paste, the glaze, and the enamels of Chinese porcelain, as well as for a rational exposition of the methods of its manufacture. To sum up, our sources of information of late years are, in the main, English, as far as the history and what I may call the sinology of our subject are concerned; but for the chemistry and technology we must turn to French works. As far as I know, little of value has been published in Germany on the subject of Oriental porcelain. The discussion between Karabacek, Meyer, and Hirth (whose later papers have been published in German) on the early history of celadon and on the Arab traders of the Middle Ages, is perhaps the most notable exception.

We are in the dark even now as to the date and place of origin of more than one class of Oriental porcelain. On the question of the relation of the ceramic wares of China to the contemporary sister arts, there are many points to be cleared up,—I mean especially the question how far the early wares were influenced by the art of the bronze-caster and the carver of jade, and again to what extent the decoration of porcelain in later times was dependent upon the example of the contemporary schools of painting. When we know about the pictorial art of the Chinese even the little that we do already of that of their Japanese neighbours, we shall, to give but one instance, be able to trace the source of the beautiful landscapes and flower designs that we find on the vases and plates of the *famille verte* and *famille rose*.

There is one source of information which remains as yet almost completely untapped. The Japanese have been for many centuries keen collectors of Chinese porcelain, as of other Chinese objects of art. They have their own views on its history, and some of the finest specimens of the older wares remain still in Japan, in spite of the many pieces that have of late

years been carried away to Europe and America. As we shall see, they have in their own pottery and porcelain handed on to quite recent days many traditions of Ming and earlier times that have been lost in China. If some Japanese connoisseur or antiquary, strong in Chinese lore, could give us a history of porcelain from his own point of view, I think that European investigators would have cause to be grateful.

Much could be gleaned, as I have already said, by studying the relation of the potter's art to that of the jade-carver and the caster of bronze, and this brings us to an important point that perhaps has not been fully appreciated by us in the West. I refer to the comparatively late date of the beginning of porcelain in China compared, for example, to the arts just mentioned. We can hardly carry back the history of true porcelain beyond the great Tang dynasty (618-907 A.D.), and even in China there is no existing specimen that can safely be attributed to so early a date. But this same Tang dynasty was the very heyday in that country, not only of military power but also of artistic culture. It would be impossible to enter into this important subject here; it is one that has been strangely ignored by us in Europe. Suffice to say that the great figure-painters of this period were looked back to with veneration in later times, both in China and in Japan, and that the two schools of landscape, the colour school of the North and the black and white 'literary' school of the South—schools whose traditions have survived to the present day—were both founded by Tang artists. At that time art critics were known (and even honoured); they already wrote books on the early history of painting, and they have left us descriptions of famous collections.

We may expect, then, to find the influence of these more precocious arts on the early fictile ware of China, and indeed we see the quaint decoration and the not

too beautiful outlines of the early hieratic bronzes repeated on the rare specimens that survive from the dynasty that after a period of unrest followed that of Tang. This was the Sung dynasty, which lasted till the time of the Mongol invasion in the thirteenth century.[1]

It is difficult for a European to appreciate the charm, or rather superlative excellence, that is found by a Chinaman in a fine specimen of jade. It is, however, a substance that is closely linked with his philosophy, his religion, and above all with his all-important ceremonial. No wonder, then, if from an early time he strove, with the pastes and glazes at his command, to imitate such a material. And numberless references in contemporary writers, as well as the evidence of many of the oldest pieces of porcelain surviving, show that this was the case. We may safely say that in these early specimens the thick glaze, of tints varying from a true celadon to a more pronounced blue or green, was admired in proportion to its resemblance to jade. As for the porcelain itself, all that was looked for in the paste was that it should be hard, and that the vessel when struck should give out a bell-like sound—'a plaintive note like a cup of jade,' as one early Chinese writer says of a porcelain cup in his collection.

The Chinese in these times possessed also elaborately carved vessels of rock crystal and of various kinds of chalcedony, and these also it was attempted to imitate with the early glazes. Glass, too, as a material for small objects, was probably known; it seems, however, to have been somewhat of a rarity. It is mentioned by writers of the Tang period in connection with these early wares, and indeed it is possible that there may be some confusion in the literature of the time (or rather perhaps in our interpretation of the

[1] For a discussion, and for many illustrations of the art of these early dynasties which survives chiefly in objects of jade or bronze, see Paléologue, *Art Chinois*, Paris, 1887.

language used) between the two materials—the thickly glazed porcelain and the more or less opaque glass.

After these preliminary remarks we shall be in a better position to interpret the somewhat involved and contradictory allusions to our subject found in Chinese books.

We now come to the important question of the classification of Chinese porcelain. A difficulty here arises from the rival claims of two systems. The older and perhaps safer division depends solely on the nature of the ware, its colour, decoration, etc.; but in opposition to this the claim of the more logical, historical classification has, with our increasing knowledge, become of late years more pressing. The result has been an attempt to combine the two systems. Such an attempt must necessarily lead to many compromises, and yet something of the sort is perhaps the only available plan. We may compare the development of the ceramic art in China to what has taken place in the evolution of the animal kingdom: while new and more elaborated forms are evolved, the older ones, or many of them, survive in but slightly modified forms. If this tendency be borne well in mind there will be less danger of confusion between the really old types and the modern representations or even copies which are called, in China, by the same names.

The three classes into which Chinese porcelain is divided—and there is a general agreement among collectors on this head—rest on such an attempt to combine a historical with a technical classification :—

1. Porcelain with single-coloured glazes, including plain white ware. The colour of the glaze is derived from two metals only, iron and copper. Any further decoration depends upon the moulding of the surface or upon patterns incised in the paste. All the wares made up to the end of the Sung period (1279 A.D.) may probably be included in this class.

2. Porcelain decorated with colour under the glaze. This division is nearly equivalent to our 'blue and white' ware, but in addition to cobalt, copper is at times introduced to give a red colour. This system of decoration was probably introduced during the course of the fourteenth century, and it is associated with the Ming dynasty.

3. Porcelain decorated with enamels over the glaze, necessitating a second firing in a muffle-stove. The use of these fusible enamel colours came in probably during the sixteenth century, but the art was not fully developed till much later.

The glazes of the first and second classes as a rule contained no lead, and to melt them the full heat of the oven, the *grand feu*, was required.

There is, however, a class of porcelain which does not fall well into any of the above divisions, but which is historically of great importance. The blue, purple, and yellow glazes of this ware were *painted* on the biscuit after a preliminary baking of the paste, and then fired, not in the hottest part of the furnace, but in what we may call the *demi grand feu*. The glaze of this ware contains lead, and this fact and the method of the decoration may be held to give it a position bridging over the interval between our first two classes and the third—that of enamelled porcelain. This ware, *painted on the biscuit*, dates, however, from an earlier time than the latter class, and must not be confused with it.

As I have pointed out, these types did not entirely replace one another, for the earlier forms continued to be made by the side of the later.

One of our principal difficulties in discussing the early wares of China is to reconcile and co-ordinate the various types described in old Chinese books with the few specimens surviving at the present day. Of these scanty examples we can point to scarcely any in public

collections; the rare pieces that have been brought from China are in the hands of private collectors in England, France, and America. In the Chinese authorities we find as early as the tenth century references to porcelain which was 'blue as the sky, brilliant as a mirror, thin as paper, and as sonorous as a piece of jade'; an emperor who reigned just before the accession of the Sung dynasty (960 A.D.) demanded that the porcelain made for him should be 'of the azure tint of the sky after rain, as it appears in the interval between the clouds.' Compare with these descriptions the thick paste, barely translucent, the heavy irregular glaze, greyish white to celadon or pale blue, of the few specimens of undoubted antiquity that have survived to our day. How can we reconcile the tradition with the material evidence? Two explanations have been given of the discrepancy. According to one theory, all the more delicate and fragile pieces have disappeared 'under the hands of time' (or shall we say more definitely under those of endless generations of housemaids?), only the heavy, solid specimens surviving. The other theory is simpler: it is that the writers of the books are apt to fall into exaggeration when speaking of any matter that has the sanction of age—that, not to mince matters, they are as a class great liars; and this is a point of view that commends itself to those who have any acquaintance with Chinese literature.[1]

We have now, however, one source of information for these early wares upon which, although it is in a measure a literary source, we can place greater reliance.

[1] The wild statements as to the transparency, above all, of the Sung and even the Tang porcelain may, however, appear to receive some confirmation from the reports of the old Arab travellers. But how much credence we can give to these authorities may be gleaned from a description of the fayence of Egypt, by a Persian traveller of the eleventh century. 'This ware of Misr,' he says, 'is so fine and diaphanous that the hand may be seen through it when it is applied to the side of the vessel.' He is speaking not of porcelain, but of a silicious glazed earthenware!

This is nothing less than an illustrated list, a *catalogue raisonné*, of famous specimens of porcelain, drawn up by a distinguished Chinese art connoisseur and collector as long ago as the end of the sixteenth century. In this manuscript there were more than eighty coloured reproductions of pieces, both from the author's own collection and from those of his friends. The work came from the library of a Chinese prince of high rank, and it was purchased in Pekin by Dr. Bushell some twenty years ago. Since then this valuable document has perished in a fire at a London warehouse, where it had been deposited, but not before the illustrations had been copied by a Chinese artist and its owner had made a careful translation and analysis of its contents.[1] The writer, Hsiang-yuan-pien, better known as Tzu-ching, after giving a brief sketch of the early history of ceramics in his country, exclaims apologetically: 'I have acquired a morbid taste for pot-sherds. I delight in buying choice specimens of Sung, Yuan, and Ming ware, and exhibiting them in equal rank with the bells, urns, and sacrificial wine-vessels of bronze dating from the three ancient dynasties, from the Chin and the Han' (2250 B.C. to 220 A.D.)—that is to say, in placing them in the same rank as antiquities that are acknowledged to be worthy of the attention of the scholar. Porcelain at that time, we see, had hardly established its claim to so dignified a position; hence the apologetic tone. After telling us how with the advice of a few intimate friends he had selected choice specimens, which he then copied in colour and carefully described, Tzu-ching concludes with these words: 'Say not that my hair is scant and sparse, and yet I make what is only fit for a child's toy.' This appeal is evidently addressed to the Lord Macaulays of his day.[2]

[1] *Pekin Oriental Society*, 1886; see also Bushell's *Ceramic Art*, p. 132 *seq.*

[2] See the passage in his *History* (chapter ix.) where this stern censor, referring to the passion for collecting china, rebukes the 'frivolous and inelegant fashion' for 'these grotesque baubles.'

The first point to notice in this catalogue is that more than half of the objects described are attributed to the Sung period (960-1279 A.D.), that is to say, they were at least three hundred years old at the time when Tzu-ching wrote. The Sung dynasty, we must bear in mind, was above all remembered as a period of great wealth and material prosperity. Less warlike than the Tang which preceded it, the arts were cultivated at the court of the pleasure-loving emperors who had their capital during the earlier time at Kai-feng Fu (in the north of Honan, near to the great bend of the Hoang-ho). When driven south by the advance of the more warlike Mongols they retired to Hangchow, the Kinsay of which Marco Polo has such wonderful tales to relate. In these early days there was no great centre for the manufacture of porcelain; it was made in many widely separated districts, so that the classification of these early wares is, in a measure, a geographical one. At King-te-chen, at least in the later Sung period, they were already making porcelain, but for court use only, it would appear, for at that time the factory was a strict imperial preserve, and its wares did not come into the market.

As to the still older wares, those of Ch'ai and of Ju, which generally hold the place of honour in Chinese lists, it was of the first that the emperor spoke when he commanded that pieces intended for his own use should be clear as the sky after rain; but no specimen of this porcelain was extant even in Ming times. Its place, it would seem, was taken by the JU YAO (the word *yao* is about equivalent to our term 'ware'), which, like the Ch'ai, came from the province of Honan. This ware also is now practically extinct; Tzu-ching, however, claims to have possessed some specimens, and of these he gives more than one illustration. The glaze was thick and like melted lard (a comparison often made by the Chinese), and varied in

colour from a *clair-de-lune* to a brighter tint of blue. The name Ju, we may add, is often applied to more modern glazes which resemble the old ones in colour and thickness.

The name KUAN YAO, which means 'official' or 'imperial' porcelain, has been the cause of much confusion; the term has been applied to any ware made for imperial use. That of the Sung dynasty was made in the immediate neighbourhood of the imperial court, first at Kai-feng Fu and later at Hangchow. In its more strict use the term Kuan yao is applied to pieces generally of archaic form, to censers ornamented with grotesque heads of monstrous animals, and to wares of other shapes copied from old ritual bronzes. The glaze varies in colour from emerald green to greyish green and *clair-de-lune*, it is generally crackled, the cracks forming large 'crab-claw' divisions. Other kinds are described as white and very thin, but of these, perhaps for one of the reasons given above, no examples have survived to our day.

LUNG-CHUAN YAO and KO YAO. It will be convenient to class together these two most important types of Chinese porcelain. At the present day these names are applied in China to some comparatively common varieties of porcelain, not necessarily of any great age. But more strictly Lung-chuan yao is the term used by the Chinese for the heavy celadon pieces, whether dating from Sung or from Ming times, which were the first kinds of porcelain to become a regular article of export; while the word Ko yao is used as a general name for many kinds of crackle ware, which may vary in colour from white to a full celadon. In a more restricted sense it includes only the early pieces with a greyish white glaze and well-marked crackles.

LUNG-CHUAN WARE was made during Sung times at a town of that name in the province of Chekiang, situated about halfway between the Poyang lake and

the coast. In Ming times the kilns were removed to the adjacent provincial capital, Chu-chou Fu, nearer to the coast. This was probably the ware that Marco Polo saw when passing through the town of Tingui. It was largely exported from the ports of Zaitun and Kinsay. It will, however, be better to defer the discussion of this thorny question to a later chapter, when we shall have something to say about the way in which the knowledge of Chinese porcelain was spread through the Mohammedan and Christian west. It will be enough for the present to mention that the Lung-chuan ware was the original type and always remained one of the principal sources of the Martabani celadon so prized in early Saracen times.

As this is the first time that we come across celadon ware,[1] we may mention that we use the term in the older and narrower sense for a greyish sea-green colour tending at times to blue. The name is, however, sometimes made to cover nearly the whole range of monochrome glazes. It is the *Ching-tsu*[2] of the Chinese and the *Sei-ji* of the Japanese.

The true Lung-chuan celadon of Sung times was, however, of a more pronounced grass-green colour. But we are concerned rather with the later celadon made at Chu-chou Fu during the Ming period. For it is to this time that we must refer most of the heavy dishes and bowls, often fluted or moulded in low relief with a floral design of peony or lotus flowers, or again with plaited patterns surrounding a fish or dragon

[1] The name Céladon first occurs in the *Astrée*, the once famous novel of Honoré D'Urfé. When later in the seventeenth century Céladon, the courtier-shepherd, was introduced on the stage, he appeared in a costume of greyish green, which became the fashionable colour of the time, and his name was transferred to the Chinese porcelain with a glaze of very similar colour, which was first introduced into France about that period.

[2] Julien translated the word *ching* as blue; an unfortunate rendering in this case, which has been the cause of much confusion. He was so far justified in this, in that the same word is used by the Chinese for the cobalt blue of our 'blue and white,' while it was not applied by them to a pronounced green tint.

PLATE III. 1—CHINESE, CELADON WARE
2—CHINESE, CELADON WARE

which occupies the centre; in other examples the decoration is engraved in the paste. In either case, whether moulded or engraved, the glaze accumulating in the hollows helps to accentuate the pattern. The paste as seen through the glaze where the latter is thin appears white, but where the glaze is absent, as on the foot, or where it is exposed by bubbles or other irregularities, the ground is seen to be of a peculiar reddish tint. By this test the Chinese claim to distinguish the older celadon, the true *martabani*, from the later imitations made at King-te-chen. The paste of these later copies is often artificially coloured on the exposed surface so that they may resemble the old ware (Hirth, *Ancient Porcelain*, pp. 21 *seq.*).

As for the KO YAO, the old ware of Sung times is said to have been first made in the twelfth century. The Chinese character with which 'Ko' is written means 'elder brother.' According to the books there were at this time at Lung-chuan two brother potters named Chang. The elder brother leaving the younger Chang to continue in the old ways, started to make a new ware distinguished by the crackle of its glaze. This was originally a thick, heavy ware, with the iron-red foot and white paste already noticed, but, as we have said, the name is now used for a large class of crackle ware with a glaze of celadon, of greyish white and especially of a yellowish stone colour. This porcelain with grey and yellowish crackle does not seem to have been so largely exported as the uncrackled celadon; bowls and jars of a similar ware have, however, been found in Borneo and in the adjacent islands.

CHÜN YAO.—It is to this ware that we may trace back the now famous family of *flambé* porcelain. Chün yao was already made in early Sung times, *i.e.* before the Mongol conquests of the twelfth century, in Honan, not far from the old capital of Kai-feng Fu. A description in a work of the seventeenth century leaves no

doubt as to its identification. 'As to this Chün yao,' the writer says, 'a fine specimen should be red as cinnabar, green as onion-leaves or the plumage of the kingfisher, and purple, brown, and black like the skin of the egg-plant.' We have here the description of that 'transmutation' or *flambé* ware of which such magnificent examples were made at King-te-chen in the seventeenth and eighteenth centuries, and which has lately been successfully imitated in France. The play of flashing colour in the glaze was said to have been originally the result of accident, but we must not attach much importance to statements of this kind. In the old Sung pieces the clay is less white and fine than in the highly finished examples made at King-te-chen during the reigns of Kang-he and Yung-cheng. On the Sung ware we may frequently find a number (from one to nine) engraved, sometimes more than once, in the paste, and these characters are carefully copied in the later reproductions. We have here perhaps the earliest instance of the employment of a mark on porcelain. The old writers tell us apologetically of the vulgar names given, by way of joke, it would seem, to these glazes, such as mule's lungs or pig's liver—no inapt comparisons, however, for some of the effects seen in these old wares. These varied hues were of course obtained from copper in the first place, though the presence of iron, in both stages of oxidation, may sometimes add to the variety of the tints.

KIEN YAO.—This was a dark-coloured ware made at Kien-chou, north-west of the port of Fuchou. It must not be confused with the well-known creamy-white ware of Fukien, exported in later days from the same port. Certain shallow conical cups of this ware, with a vitreous glaze, almost black, but relieved around the margin with small streaks and spots of a lighter colour, were especially valued from very early times for the preparation of powdered tea—nowhere more than in Japan, where an

undoubted specimen of this Kien ware is treasured as a priceless heirloom. There is an excellent specimen in the British Museum: a careful examination of this little bowl will give no little aid in understanding what are some of the qualities that are looked for in China and Japan in these old glazes. There is a quiet charm in the glassy surface, and an air as of some quaint natural stone carefully carved and polished rather than of a product of the potter's wheel.

TING YAO.—In the Ting yao of the Sung dynasty, as in the case of the contemporaneous celadon and crackle wares, we have the oldest type of an important class of porcelain. The earlier specimens have served more than once as models for famous potters of Ming and later times. It was probably at Ting-chou, a town in the province of Chihli, to the south-west of Pekin, that a brilliant white porcelain was first successfully made by the Chinese, possibly as early as the time of the Tang dynasty; and the name of Ting yao has remained associated with all pure white wares of a certain quality, even though made at other places. As in the case of the celadon porcelain, the decoration, if any, was either in low relief or incised in the paste; but in opposition to many of the other wares we have mentioned, the Ting porcelain seems from the first to have been made from a paste of great fineness, its translucency was at times considerable, and the patterns were engraved or moulded with much delicacy. The design when engraved is scarcely visible unless the vessel is held up to the light. The specimens of Ting ware that survive date probably from Mongol or from Ming times. The British Museum possesses a remarkable collection of these Ting bowls and plates. A pair of very thin pure white shallow bowls are noticeable as having in the centre an inscription finely engraved in minute characters under the glaze. It is the nien-hao or year-mark of the Emperor Yung-lo (1402-1424), the first

great name among the emperors of the Ming dynasty. This is perhaps the earliest date-mark with any pretentions to genuineness that has been found on the Chinese porcelain in our collections. The decoration, in this case, is formed by a five-clawed dragon faintly engraved in the paste. These bowls are specimens of the *feng* or 'flour' Ting ware (also known as *Pai* or 'white' Ting), but most of the Ting plates in the same collection are of quite another kind of ware, which has a surface like that of a European soft-paste porcelain—this the Chinese know as the *Tu-Ting* or earthy Ting. This latter ware has in fact a soft lead glaze covering a hard body, and must therefore have required two firings, the first to thoroughly bake the paste, and a second at a lower temperature to melt the glaze on to it. Some of the specimens of this *Tu-Ting* in the British Museum are said to date from Sung times. I do not know what is the authority for the use of a lead glaze in China at so early a date. Many of these plates have certainly a great appearance of age, but this antique look is due in some measure to the 'weathering' of the soft glazes on the exposed surfaces. This weathering has brought into prominence the very graceful decoration of lotus-flowers, but the surface is often discoloured by stains as of some oily matter which has apparently found its way under the glaze. The copper bands with which the edges of many of these plates are bound are mentioned in the old accounts; those in use in the palace, it is said, were fitted thus with collars to preserve the tender material.

We must postpone the account of the rival white ware, the creamy porcelain of Fukien, or later Kien yao, as none of it was made as early as the time of the Sung dynasty. The Kien yao of that time, as we have seen, was quite another ware.

We have now mentioned the most important of the classes of Chinese porcelain that date from early times.

We have confined our brief notice to the varieties of which specimens have survived, laying special stress upon those kinds which have, as it were, founded a family, and which we can therefore study in specimens from later ages. The names of many other wares of both the Sung and Tang periods may be found in Chinese books, but of these we do not propose to say a word.

The paste of these early wares is rarely of a pure white, and their translucency is generally very slight, but they are not for that reason to be classed as stonewares. The materials were probably in all cases derived from granitic rocks, that is to say, from a more or less decomposed granite (containing mica and often a certain amount of iron) mixed with some kind of impure kaolin. Professor Church, in his Cantor Lectures, gives us two analyses of 'old Chinese ware,' which confirm this view. One specimen, with a white body, was found to contain 75 per cent. of silica, about 18 per cent. of alumina, and about 5·5 per cent. of alkalis (chiefly potash). The other, of brownish coloured paste, contained a little less silica, but as much as 2·5 per cent. of iron. For the roughly prepared material of these old wares we would prefer the name of proto-porcelain or kaolinic stoneware, so that there may be no confusion with the true stoneware of Europe, a quite different material.[1]

In the absence of more ordinary clays in the central and northern parts of China, some such kaolinic pottery may have been made by the Chinese from very early times. When in Tang or in earlier days it occurred to them to attempt to imitate jade or other natural stones, they had the good fortune to be already using materials that allowed of these experiments being after a time crowned with success. The important point that still remains unsettled is at what date they first succeeded in covering a ware of this class with a vitreous coating. For the date of the first use of glaze in China we

[1] I shall return to this point when treating of English porcelain.

can at present only give a very wide limit, let us say some time between the first and the fifth century of our era. Very probably it was their acquaintance with the nature of glass that put them on the right track. This material, it is said, they first knew of from their intercourse with the later Roman empire. There is some reason to believe that they acquired at the same time the secret of its manufacture, though, according to the Chinese, the art was lost at a later time.[1]

We can now form some idea of how far the art of making porcelain had advanced at the time when the tide of the Mongol invasion swept over the country. Our knowledge of the wares made at this time must be derived chiefly from the imitations of the older porcelain made at a later period, but in such a conservative country as China this reservation is of no great importance. We must remember that in all these wares there was no other decoration than that given by the glaze as applied to the variously moulded or incised surface of the paste. The nature of the glaze was therefore of pre-eminent importance. The range of colour, except in the rare *flambé* vases, was in the main confined to shades of blue and green, and even of these colours pronounced tints are rare. All the colours at the command of the potters of these days were derived from the oxides of iron and copper. And yet with such simple elements, what an infinite variety! It has been truly said by a French writer that the beauty of the glaze is the *qualité maîtresse de la céramique*, and it is partly a recognition of this claim that has led so many French and American collectors, of late, to follow the example of the Chinese and Japanese connoisseurs, and to give so marked a preference to monochrome porcelains, which owe their charm to the

[1] Somewhat later the Chinese were for a time neighbours of the Sassanian empire, where the arts of glazing pottery and making glass were highly developed. Sassanian bronzes, and probably textiles, have found their way to Japan.

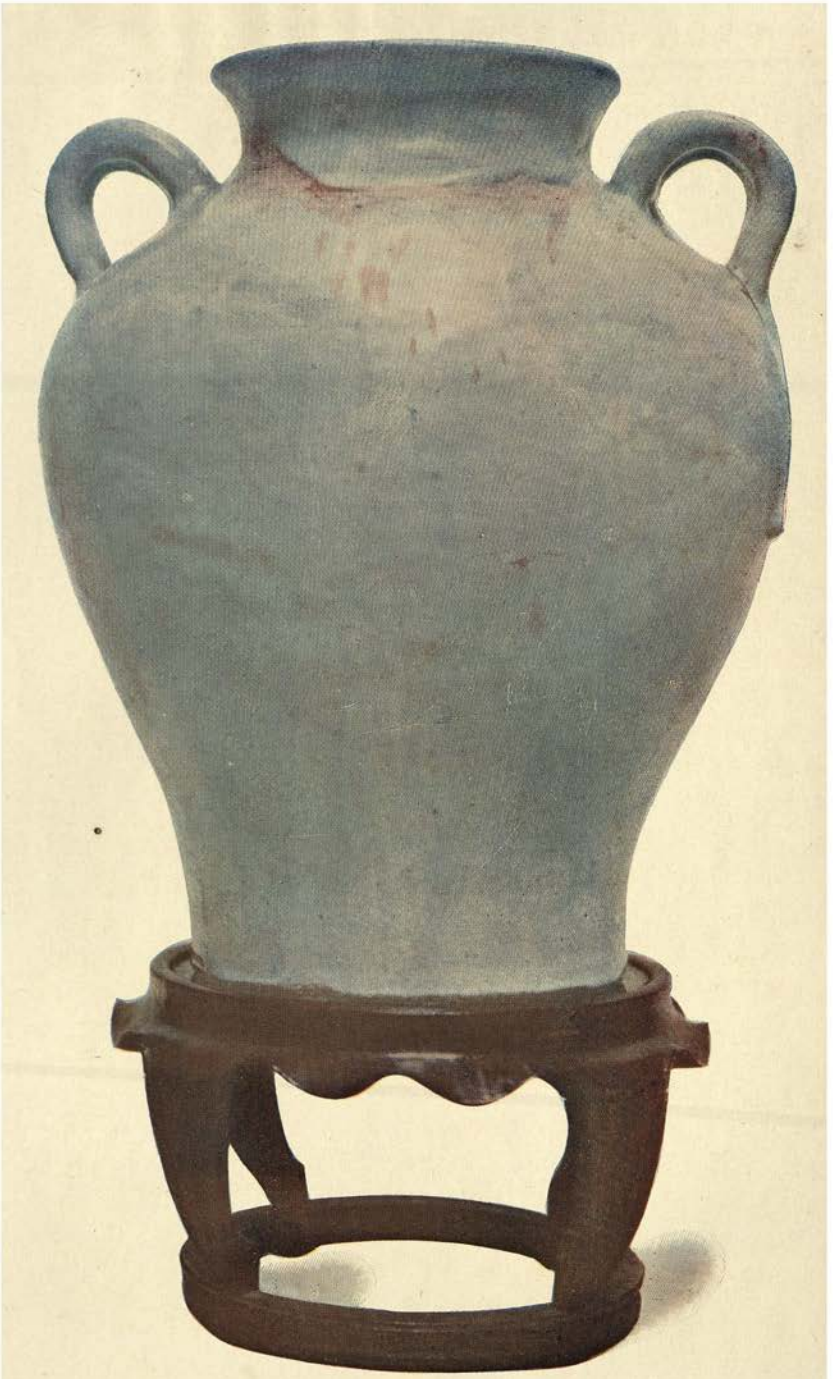


PLATE IV. CHINESE

merits of the glaze alone. But the specimens we find in these collections are with but few exceptions of much later date. The price that a fine piece of Sung ware, above all if it has a good pedigree and comes from a known collection, has always commanded in China has sufficed, at least until quite lately, to keep such specimens in their native country.

As we have said, there are very few examples in our public collections that can with any assurance be attributed to Sung times. In the British Museum, in the same case with the Kien yao tea-bowl already mentioned, is a jar some twelve inches in height, with two small handles on the shoulder. It is of irregular shape and covered with a thick glaze of a pale turquoise blue, faintly crackled. Close to the mouth is a bright red mark, like a piece of sealing-wax, due probably to the local partial reduction of the copper. This beautiful but very archaic-looking jar (PL. IV.) is attributed to no earlier date than the later or southern Sung dynasty (1127-1279). Among the large number of crackle monochrome pieces in the same collection there are many specimens which a Chinese connoisseur would classify as Ko yao, and similarly some of the old *flambé* pieces might be termed Chün yao, without definitely assigning them to Sung times. The Lung-Chuan celadons are represented by some early pieces, more than one distinguished by the red foot. There are some fine plates of old heavy celadon at South Kensington, not a few purchased in Persia. Here may also be found a celadon jar cut down at the neck; and the 'mouth' thus artificially formed has been carefully stained of a red colour to imitate the old ware. The French museums are particularly rich in specimens of old *martabani* celadon—I would point especially to several large dishes both at Sèvres and in the *Musée Guimet*. But what is perhaps the finest collection in Europe of celadon and other old wares is now to be

seen in the museum at Gotha. It was brought together by the late Duke of Edinburgh, who added to previous acquisitions the collection formed in China by Dr. Hirth.

Yuan Dynasty (1280-1368).

Probably at no period during its long history has the Chinese empire been subjected to such a thorough shaking up, to such a complete upsetting and reversal of its ancient ways, as during the advance of the Mongols from the north to the south during the twelfth and thirteenth centuries. When they had at length subdued the whole land, there was a moment during the rule of the liberal-minded Kublai Khan when the old barriers and prejudices seemed to have been broken down, and when the Middle Kingdom appeared to be about to enter the general comity of nations. This is what gives to Marco Polo's account of the country, which he visited at the time, so very 'un-Chinese' an air. We hear of Italian friars and French goldsmiths at the court, and of projected embassies from the Pope. Still closer were the relations with the Mohammedan people of Western Asia, then ruled by members of Kublai's family. Marco Polo, we know, formed part of the escort of Kublai's sister, when she travelled by sea to Persia to become the bride of the Mongol khan of that country; and a predecessor of this latter ruler, Hulugu, as early as the middle of the thirteenth century, brought over, it is said, as many as a thousand Chinese artificers and settled them in Persia.

And yet when scarcely two generations later the degenerate descendants of Kublai were driven from the imperial throne and replaced by a native dynasty, what slight permanent trace do we see of all these changes reflected in the arts of the Middle Kingdom! No doubt, on looking closely, we should

find that a change had taken place during these years: new materials had been brought in, new forms and new decorations applied to the metal ware and the pottery of the Chinese. It is in connection with these two arts especially (and we may add to them the designs on textile fabrics) that we find so many points of interest in the mutual influence of the civilisations of China and Persia at this time. We must remember that in the thirteenth century the craftsman of Persia, as the inheritor of both Saracenic and older traditions, was in many respects ahead of his rival artist in China.

As far as the potter's art was concerned this was the first meeting of two contrasted schools, which between them cover pretty well the whole field of ceramics—of that part at least of the field in which the glaze is the principal element in the decoration.[1]

The Persian ware of this time was the culminating example of an art that had been handed down from the Egyptians and the Assyrians. As a rule, among these races, the baser nature of the paste had been concealed by a more or less opaque coating either of a fine clay or 'slip,' or of a glaze rendered non-transparent by the addition of tin; it is on this coating that the decoration is painted, to be covered subsequently (in the first case at least, that of the slip ware) by a coating of glaze. It is to this large class, for the most part to the latter or stanniferous division, that nearly all the famous wares of the European renaissance belong, not only the Spanish and Italian majolica but the enamelled fayence of France and Holland as well. It was with the latter two wares that at a later date the porcelain of China was destined to come into competition. Each of these ceramic schools, the Eastern porcelain and the Western fayence, might in certain points claim

[1] The salt-glazed ware of Europe seems to be the only important exception to this perhaps rather sweeping generalisation.

advantages over the other, advantages both of a practical and of an æsthetic nature. For example, the glory of the Persian fayence of that day lay in its application to architecture, in the brilliant coating of tiles that covered the walls and the domes of the mosques and dwellings both inside and out. The Chinese have never succeeded in making tiles of any size with their porcelain. When used for the decoration of buildings the porcelain, or rather the earthenware, is always in the form of solid, moulded bricks.

But there is another matter with which the Chinese who visited Western Asia at that time cannot fail to have been struck—with the materials, I mean, at the command of the Persians, for the application of colour both under and over the glaze. Of the decorations over the glaze the most important were those given by their famous metallic lustres. This lustre, we now know, was the result of an ingenious process by which a film of copper, or sometimes of silver, was developed on the surface of the glaze.

The Chinese have never attempted anything of the kind, in part because such a method of adornment was foreign to their notions of what was fitting. For we must bear in mind that the influence of the literary tradition in China has always tended towards simplicity of means in their decorative arts, and has been opposed to anything like an ostentatious display of expensive materials. Any marked infringement of this sentiment, even on the part of an emperor, has always called forth a protest from the censors. Another cause which hindered the adoption of the lustre decoration by the Chinese may be found, no doubt, in the difficulties of its practical application. At that time the processes of the muffle-stove for decoration over the glaze were quite unknown to them.[1] But the Saracens, in Western

[1] It is possible, however, that some of the various tints of brown used from early Ming times, especially that known to the Chinese as 'old gold,' may have

Asia, were already in possession of another means of decorating their ware. This they found in the use of cobalt, especially as a material for painting a design on the paste before the application of the glaze. We find this colour at times on the tiles that lined their prayer-niches; these indeed date from a somewhat later time. But there is another variety of Saracenic ware of which a few specimens have survived. I refer to the vases and bowls covered with a thick alkaline glaze, and decorated, in part at least, *under the glaze* with a design of black lines and some rude patches of blue. These rare vases were formerly classed as Siculo-Moorish, but later research has proved most of them to be of Persian or perhaps rather of Syrian or Mesopotamian origin. They appear to be the work of thirteenth century potters, and some of them may be of even earlier date.[1]

When we consider that there is no evidence of the use of cobalt by the Chinese for the decoration of their porcelain during Sung times, that indeed the use of colour apart from that of the glaze as a means of decoration appears to have been then unknown; but that, on the other hand, not long after the turmoil of the Mongol invasion and domination—a period during which the two countries, China and Persia, were so closely connected—we find the use of cobalt as a decoration *sous couverte* firmly established, we may, I think, regard it as not improbable that it was from the Persians that the Chinese learned the new method of decoration.[2]

been suggested by this copper lustre. The ground on which this lustre is superimposed in some old Persian wares is of a very similar shade. Dr. Bushell mentions a tradition that the old potters tried to produce a yellow colour by adding metallic gold to their glaze, but that the gold all disappeared in the heat of the *grand feu*. They had therefore to fall back upon the *or bruni*.

[1] Consult for this ware the beautifully illustrated monographs of Mr. Henry Wallis on early Persian ceramics.

[2] The cobalt pigment itself, when not of native origin, was known to the Chinese in Ming times as *Hui-hui ch'ing* or 'Mohammedan blue.' The other names for the material, *sunipo* and *sumali*, probably point in the same direction.

The influence of the Saracenic art of Western Asia is indeed now for the first time to be seen in other directions, and we shall find it cropping up here and there during the whole of the following Ming period. It was the source of many new forms which we see now for the first time in China: the graceful water-vessels, for instance, with long necks and curved spouts, copied from the Arab *Ibraik*. Again, we find this influence at times in the *motifs* of the conventional floral patterns found on Ming porcelain, though these patterns, indeed, are always mere counterchanges, as it were, upon a field of an unmistakable Chinese stamp (PL. VI.). All these changes were doubtless regarded as anathema by the Chinese censors, who reminded the rash innovators that the great men of old were content with simple materials and forms, and that they in their wisdom rejected all such meretricious ornament. For it was seriously maintained that had they thought it desirable, these old sages could have commanded all the resources of the later potter, not only the larger field he could draw from for his designs and colours, but the improved paste of his porcelain as well.

On the other hand, the Chinese influence at this time on Persian art was small. By a careful search we may find at times a dragon or a phœnix amid unmistakable Chinese clouds on the spandrel above the arch of a Persian prayer-niche of the fourteenth century, or forming the centre of a star-shaped tile. But the great invasion of Chinese wares and Chinese schemes of decoration belongs, as far as the fictile art of the country is concerned, to a later period, that of Shah Abbas in the early years of the seventeenth century.

It is not unlikely that in China the Western influence did not make much way until the time of the early Ming emperors, and that it was due more immediately to the growing commercial intercourse with the Persian

Gulf, but this intercourse was itself fostered by the events of the Mongol invasion.

There is very little to be said of the porcelain made during the time of the MONGOL or YUAN dynasty, and we have few specimens that can be definitely assigned to that period. The name is still given in Pekin to a rude, somewhat heavy ware, with a thick glaze of mingled tints, among which a shade of lavender with speckles of red predominates. This is but a modification of the Chün yao of Sung times, and belongs in a general way to the class of 'transmutation' wares—those in which the colours depend on the partial reduction of the oxides of iron and copper in the glaze. Specimens of this ware that claim to be of Chinese origin are often found in Japan, where they are much in favour for use as flower vases, but neither in that country nor in China have the pieces we meet with much claim to any great antiquity.

There is only one specimen in the Bushell manuscript that is attributed by Tzu-ching to the Yuan period—this is a little vase of white ware decorated with dragons faintly engraved in the paste under the glaze.

This white ware, generally classed as Ting, is indeed in many of our books on porcelain considered to be especially characteristic of the Mongol dynasty, but I cannot find any definite confirmation of this. The finer pieces of plain white seem to be generally attributed by the Chinese rather to the beginning of the next dynasty. The little white plate in the Dresden Museum, said to have been 'brought back from the East by a crusader,' has no claim to such an early date.[1]

[1] A little white oval vase, in the Treasury of St. Mark's, at Venice, may possibly be of this old Ting ware. The decoration is in low relief, and four little rings for suspension surround the mouth. In any case this is the only piece in this famous collection that has any claim to be classed as porcelain.

CHAPTER VI

THE PORCELAIN OF CHINA—(*continued*).

THE MING DYNASTY (1368-1643).

IT was in the course of the three centuries during which the Ming dynasty ruled in China that the greatest advance was made in the manufacture of porcelain. When, however, we come to look a little more closely, we find that this long period may be shortened by nearly a hundred years. Before the accession of Yung-lo (1402), and after the death of Wanli (1619), the times were little favourable to the arts of peace, and even in this shorter period of two centuries there were intervals, indeed whole reigns, of which there is little to report.

The points of chief importance to remember in connection with this dynasty are—1. That not later than the beginning of the fifteenth century the employment of the oxides of copper and cobalt for decoration under the glaze was coming into general use. To this, or perhaps to an earlier date, we must assign the beginnings of the ware that we in England are wont to consider the most important of all, the great family of 'blue and white' porcelain. 2. That probably about the same time, or soon after, the 'painted glazes,' as we have called them, were introduced. In this ware the colours required for the decoration—the palette was a very restricted one—were painted directly on the biscuit, the piece having been previously fired; it was then re-fired at a moderate

heat. 3. That at a later period, probably about the middle of the sixteenth century, the employment of enamel colours above the glaze was introduced, probably under European influence.

It is the blue and white that we are above all accustomed to associate with the Ming period. But this is not the Chinese point of view. If we consult the Bushell manuscript (see chap. v.) we find that Tzu-ching, towards the end of the sixteenth century, had in his collection thirty-nine pieces which he attributed to the reigning dynasty, but of these only five or six would be classed by us as 'blue and white'; at least equal importance was given to those decorated with copper-red under the glaze, and even more specimens belong to the class of painted glazes. These latter are chiefly little objects—pen-rests, rouge-pots, and small wine-jars moulded to represent plant and animal forms, the gourd or again the persimmon being great favourites. We must not confuse these early specimens, dating mostly from the fifteenth and sixteenth centuries, with the somewhat similar objects so much sought after by the French collectors in the eighteenth century, which belong for the most part to the contemporary *famille verte*; on these the decoration is given for the most part by enamels *painted over the glaze.* Still it is from some of these little *magots* that we can perhaps form the best idea of the coloured porcelain so prized by Tzu-ching, but of which we are unable to point to any specimens in our collections.

In connection with these painted glazes—for it undoubtedly belongs to this class—it may be well to say something of a very decorative ware of which the origin is probably to be placed in early Ming times. The colours are distinctly those of the *demi grand feu,* and in this ware we have the earliest instance of the use of these colours. This porcelain occurs most frequently in the shape of vases of baluster outline with contracted necks

and small mouths, or sometimes of the more ordinary oil-jar shape, with wide mouths. We may distinguish two types of this ware. In the first the decoration is given by means of a low relief of beads and of ribs surrounding countersunk *cloisons*. The field between these *cloisons* is of a deep blue passing into a blue-black, and the *cloisons* themselves are filled with a wash of turquoise or straw-yellow. Chains of pearls in festoon surround the neck, and from these hang *pendeloques* of various Buddhist emblems. On the body of these vases the decoration often consists of lotus-plants arising from conventional waves.[1] In the second type the turquoise blue predominates, an impure pale manganese is added, and the jars are often built up of an open-work trellis of bars. Both the turquoise and aubergine purple porcelain of the Kang-he period, as well as the Japanese Kishiu ware, may possibly be traced back to a Ming porcelain of this class. There are specimens of all these wares in the British Museum and at South Kensington. In the Salting collection is a jar of the *cloisonné* type, the blue-black ground covered with a skin of thin glaze of a dull surface. This jar was formerly the property of a Japanese collector (PL. II.).[2]

The colours applied *under the glaze* are confined to cobalt blue and copper red. The latter when fine in tint was greatly prized by the Chinese, and we are informed that in the most brilliant specimens the colour was given by 'powdered rubies from the West.' It was, however, a treacherous colour to use, and after the period of Hsuan-te (1425-1435), which was famous for its ruby-

[1] The style of this *cloisonné* decoration is almost identical with that seen in the two magnificent lacquer screens with landscapes and Buddhist emblems at South Kensington. The chains of pearls and *pendeloques* are characteristic of a style of painting often found on the beams and ceilings of the old Buddhist temples of Japan. This is, I think, a *motif* not found elsewhere on Chinese porcelain.

[2] The late M. Du Sartel gives in his work on Chinese porcelain good photographs of some jars of this class in his collection. He was one of the first to call attention to this ware.

1

2

3

PLATE V. CHINESE

red, it fell into comparative disuse and was displaced in a measure at a later date by a more manageable iron red. The use of the copper sub-oxide to obtain a red, *sous couverte*, was, however, revived in the time of Kang-he. On examples in European collections this red, when used alone or in connection with blue, is generally of a rather poor maroon colour, and it has not found much favour with us. The colour was often thus applied to the painting of fish, floating, it may be, among blue water-weeds. We see it at its best as a monochrome on some little bowls, enlivened with a floral design in gold, in the British Museum. These cups and some similar ones at Dresden undoubtedly date from Ming times; the ruby tint seen through a brilliant glaze has never been equalled in later days. With these we may compare certain little apple-green bowls similarly decorated with gold. One of these in a silver-gilt mounting of the early sixteenth century is in the Gold Room at the British Museum (PL. V.).

'BLUE AND WHITE' PORCELAIN.

What we somewhat vaguely call 'blue and white,' that is porcelain decorated under the glaze with designs painted with cobalt blue, has always formed the most important class in the eyes of European collectors, at least of those of England and Holland. This preference has been even more marked with the people of India and Persia, and no wonder, for no combination of colour more suggestive of coolness could be imagined. It has thus come about that this class of ware, more than any other, has been made with the direct object of exportation. This blue and white porcelain of China and Japan, which has found its way into so many lands both of Europe and Asia, has for centuries had the profoundest influence upon the native wares of these countries, whether of porcelain or of fayence.

In China, by the introduction of this process of freely painting with a brush upon the surface of the paste, the potter's art was for the first time brought into contact with that of the painter, and thus fell under new influences. The artists of China at that time were divided into many schools, but what we may call the literary or *dilettante* influence was predominant, and this influence is reflected in the subjects treated on Ming porcelain—subjects which, as usual in China, were handed on to the ceramic artists of the next dynasty. The earliest decoration in blue and white in no way followed, as far as we know, the hierated types of the old bronze ware. Such *motifs* we do indeed sometimes see repeated on porcelain, but only on pieces that may safely be attributed to a much later date, especially to the pseudo-archaic revival of Yung-cheng's time (1722-35).

There is no class of Chinese porcelain to which it is more difficult to assign even an approximate date than to this blue and white ware. We may say at once that the *nien-hao*, or the characters giving the name of the dynasty and the emperor, so often found inscribed on the base, are in the vast majority of cases of no value for fixing the date, and this is especially true when the name of a Ming emperor is thus found. What is more, these marks, as far as we can judge (from the knowledge we now possess derived from other sources), do not, as we might have expected, even help us in giving hints of the style prevailing at the period indicated by the date. To take but one example, the reign-mark of Cheng-hua (1464-87) is the one most frequently found on the finest pieces of blue and white (in the Salting collection, for instance), but by far the greater number of the pieces so marked undoubtedly date from the beginning of the eighteenth century. On the other hand, the Chinese books all agree in telling us that this Cheng-hua period was

noted for a decline in the excellence of the blue, but on the other hand was pre-eminent for its coloured decoration. It was rather the earlier Hsuan-te period (1425-35) that was renowned for the brilliancy of its blue. These statements of the Chinese authorities are confirmed by an analysis of the Ming specimens illustrated in the Bushell manuscript. The Japanese, perhaps a little more rationally, give the preference to the reigns of Hsuan-te and Yung-lo (1402-24), for the date-marks of these emperors ('Sentoku' and 'Yeiraku' in the Japanese reading) are to be read on the commonest modern blue and white in domestic use in that country.

This is a point that cannot be too strongly dwelt upon. Perhaps if a little more of the care and research that have been devoted to the reading of these *nien-hao* and other inscriptions on Chinese porcelain had been earlier directed to a careful examination of the glazes and enamels, and to questions of technique generally, the misconceptions that so long prevailed as to the dating and classification of Oriental porcelain would have been sooner dispelled.

But what means have we then for settling the date of a piece of Chinese blue and white ware? What criterion is there for distinguishing between specimens of early Ming, late Ming, or Manchu times?—or indeed between those of Chinese and Japanese origin? That we even now possess no very exact criterion is shown by the wide difference of opinion so often found in individual cases. If we are to form our judgment from the rare extant pieces of blue and white known to have been imported into Europe in the sixteenth century, we must regard the Ming ware as distinguished by a certain irregularity of surface, seen best by side-reflected lights; the pieces are generally moulded, and the marks of the lines of junction of the moulds are often to be traced on the surface; the paste, too, is

generally very thick, and sometimes shows gaping fissures at the margin. The drawing of the design is somewhat hasty and summary, although at times distinguished by a freshness of handling and by a certain caligraphic freedom. But we must not draw too hasty an inference from the few specimens in our European collections, many of which must have been made, as we shall see later on, at a period of temporary decline; nor are we justified in regarding mere articles of commerce, as most of these specimens undoubtedly were, as representative of the higher artistic products of the time.

The blue in these early pieces is generally of a full tint but not of any remarkable quality. There are, however, to be found a few specimens, heavily moulded indeed and of irregular contour, decorated with cobalt blue of a full sapphire tint. Of this class there are one or two brilliant specimens both in the British Museum and at South Kensington. In these and in other Ming wares the surface of the glaze is often dulled, and this is not always the result of minute scratches, for sometimes a process of devitrification appears to have set in.[1] Another class of Ming ware is distinguished by a decoration delicately painted in a pale blue tint, and it was this style that was copied by the Japanese in their Mikawaji ware of the seventeenth century.

It is to later Ming times that we must attribute the bulk of the rough heavy ware of which so much is found in India.[2] These are generally large plates and bowls, often discoloured from having been used for cooking purposes. The decoration is hastily executed

[1] This dull surface is especially noticeable in some of the specimens with Arabic inscriptions in the British Museum; these date from the Cheng-te period (1505-21).

[2] In Persia, too, and in that country accompanied by many other varieties of Chinese porcelain. For examples of these wares see above all the collection at South Kensington.

PLATE VI. CHINESE, BLUE AND WHITE WARE

in a dull indigo blue (derived of course from cobalt, as in other cases), and the outlines are often accentuated by black lines. Many fine specimens of this picturesque ware, from the collection of Mrs. Halsey, were shown in the exhibition of blue and white ware at the Burlington Fine Arts Club in 1895. It was claimed for one large vase that it came from the palace of the Moguls at Agra, and that it had been presented to Jehangir by the Chinese emperor Wan-li (1572-1619). It is often stated that this class of ware was made at some factory in the south of China, probably in the neighbourhood of Canton, the port from which doubtless most of it was exported. As yet, however, no evidence, as far as I am aware, for such a factory has been brought forward, and no definite locality indicated. The statement made by the Abbé Raynal, about a factory at Shao-king Fu, rests probably upon a misconception.

There are several specimens of blue and white in England, the metal mountings of which date from the early seventeenth or even from the sixteenth century. Of these the most famous are the four pieces from Burleigh House (now belonging to Mr. Pierpont Morgan), which are believed to have been in the possession of the Cecil family from the time of Queen Elizabeth. One of these bears the date-mark of Wan-li, the contemporary of that queen. This ware is not particularly fine, the surfaces are irregular, and all the pieces are apparently moulded (PL. XXVIII.).

This subject, however, of the early presence of Chinese porcelain in other lands we shall return to in a later chapter.

So far, then, with such imperfect lights as are at our command, we have attempted to follow up the history of porcelain, and so far, say up to the middle of the sixteenth century, China is practically the only country with which we are concerned. Some fair imitations

of celadon, the *martabani* of Oriental commerce, had probably by this time been made in Siam and perhaps elsewhere, and the Japanese were already in a sporadic way experimenting with imported and native clays. But up to the sixteenth century the Chinese had practically the monopoly of the art, and as we have seen they had at that time the command of three processes of decoration—that is by monochrome glazes, by painting with glazes of a few simple colours on the biscuit, and finally by means of cobalt blues and copper reds painted on the surface of the raw paste.

Not but that some attempts may have already been made to apply coloured decoration over the glaze —the next and final step in the history of porcelain. There are some passages in contemporary Chinese books, giving descriptions of elaborate subjects painted in many colours on porcelain of the fifteenth and sixteenth centuries, which it would be difficult to apply to our class of painted glazes. Thus—to take a pronounced instance from an unexceptionable source—the miniature wine-cups, No. 59 of the Bushell manuscript, are attributed by Tzu-ching to the reign of Cheng-hua (1464-87), and he describes them thus—'They are painted in enamel colours' (so Dr. Bushell translates the original) 'with flowers and insects; . . . the cocks-comb, the narcissus and other flowers, the flying dragon-fly and crawling mantis are minutely painted after life in green, yellow, and crimson enamel.' (This, by the way, is a combination of colours which it must have been difficult to apply at one firing with the pigments known at that time.) And yet in the absence of any specimen of enamelled ware (using the word enamel in its restricted sense for a decoration applied over the glaze) that can with certainty be attributed to so early a period, it will be safer to postpone the date of the introduction of this decoration, *sur couverte*, for another hundred years.

It will be remembered that the distinctive feature of this decoration with enamels is the use of an easily fusible silicate, containing much lead—in fact a kind of flint glass. A glass of this description is capable of being stained by the addition of small quantities of certain metallic oxides, some of which would not stand the heat requisite for the firing of the porcelain. This, in fact, is the application to porcelain of the arts of the glass-stainer and of the enameller, arts already at this time fully developed in the West. For once the Chinese authorities all agree in finding in an exotic and indeed Western art the origin of their enamelled porcelain. When, however, we attempt to interpret their statements we are landed in an even more than customary chaos—so many are the different readings for the names of foreign countries and for technical processes.

Let us then consider for a moment what the materials were that the Chinese had to draw from —whether from Arab or other sources.

Putting aside the application of stained glass to windows, for specimens of this art are not easily exported, these may be summed up as, first, the enamelled glass of the Saracens, and secondly, the *cloisonnés* and *champlevés* enamels of the Byzantines and other Western nations.

As to the first—the application of coloured and easily fusible enamels to the surface of glass, which was then exposed to a second firing—this process had been used by the Arabs for the decoration of their mosque lamps and other vessels probably as early as the twelfth century, and this was an art identical in its system with the application of the same colours to the surface of porcelain. The beauty of the effect cannot have failed to have struck the Chinese if they had had any opportunity of seeing the finer specimens. But the material was fragile, and apart from a statement by M. Scherer that glass was exported from Aleppo to

China,[1] I cannot find in the accounts of the Arab trade of the time any record of such ware being imported into China.

On the other hand, we know that enamels on metal are first mentioned in the Ming annals about the middle of the fifteenth century. They take their name of Cheng-tai enamels from the emperor who reigned at that period; but the proper Chinese term for such enamels is *Folang chien yao*—'the inlaid ware of Folang.' Julien interpreted these words '*Porcelaines à incrustations* (*ornées d'émaux*) *de France*,' and Dr. Hirth carries us to Bethlehem! But the word *Folang* is probably the same as the term *Folin* or *Fulen*, used as early as the sixth century for the Roman empire of the East, and it may possibly be connected with the Greek πόλιν (cf. Stamboul = Εἰς τὴν πόλιν).[2] It is definitely stated by a later Chinese writer that the same colours are employed by both the enameller on metal and the decorator of porcelain.

If we examine the colours found on both the wares to which we have tentatively traced back the enamelled porcelain of the Chinese—the enamels on glass on the one hand, and those on metal on the other—taking in each case the earlier specimens as examples, we find on the mosque lamps from Cairo little except a deep blue generally used as a ground for a design which is outlined in an opaque iron red. On the famous flask from Würzburg, now in the British Museum, for which a 'Mesopotamian' origin of the thirteenth century is claimed, a turquoise blue relieved by gilding is the

[1] *Relations des Musulmans avec les Chinois.* It is not impossible, however, that further research may bring to light some information on this subject. Since writing this I hear from Dr. Bushell that some specimens of Saracenic enamelled glass, presumably of the fourteenth century, have lately been purchased in Pekin. The Arab trade with China was probably never more active than in the first half of the fifteenth century. It is with the Memlook Sultans, then ruling a wide empire from Cairo, that we must associate most of this enamelled glass, and the Eastern trade was in their hands.

[2] See Bushell, p. 454.

predominant note; there is also a sparing use of yellow, of an opaque white, and, what is especially interesting, of a fine pinkish red, which is possibly obtained from gold. (The way in which this colour is shaded into the opaque white reminds us of the similar use of the *rouge d'or* in later times in China.)

If, on the other hand, we turn to the earlier Chinese enamels on metal, the so-called Ching-tai vases, attributed to the fifteenth century, we find among the colours used an opaque iron red, a yellow, an opaque white, and finally two kinds of blue, a turquoise and a full deep blue that looks like a cobalt colour.[1]

Some time, then, during the sixteenth century, whether before or after the accession of Wan-li (1572), the Chinese began to decorate the surface of their porcelain with jewel-like enamels *appliqués* to the glaze. At first, apparently, these colours were confined to three: a copper green, a yellow generally of a buff tint, probably containing antimony as well as iron, and a purple derived from manganese. These are the *San-tsai* or three colours of the Chinese writers, and it will be seen that they differ from the colour triad of our 'painted glazes' (painted, that is, on biscuit and reheated in the *demi grand feu*) in that the copper silicate is of a turquoise blue in the latter, and in the former of a full leafy green. The Chinese authorities further tell us that a second scheme of decoration was given by the *Wu-tsai* or the five colours which were made up by the three already mentioned, with the addition of an opaque red derived from the sesqui-oxide of iron (otherwise known as hæmatite, bole or red ochre),[2] and finally of a

[1] Note that cobalt as an enamel colour was not applied on porcelain during Ming times.

[2] There is, however, a curious old bowl in the Salting collection with the nien-hao of Cheng-te (1505-21), on which a design of iron red, two shades of green, a brownish purple, *and a cobalt blue of poor lavender tint, all these colours over the glaze*, is combined with an *underglaze* decoration of fish, in a full *copper red*. Note also the early use of a cobalt blue enamel, *sur couverte*, in the Kakiyemon ware of Japan.

cobalt blue, *sous couverte*, surviving as it were from the earlier blue and white ware, for, as we have mentioned, the use of the blue as an enamel over the glaze belongs to a later period.

So much for the teaching of the Chinese books; but when, attacking the subject from the other side, we examine the specimens of enamelled ware which for one reason or another—the coarseness and thickness of the paste, the moulded form, and the irregular surface—we should be inclined to attribute to the Ming dynasty, we are led to classify these earlier examples somewhat as follows:—

1. On a white ground a design, often, it would seem, of textile origin, roughly painted in an opaque red (like sealing-wax), with the addition of a leafy green and very rarely of a little yellow. This is a class of decoration much imitated in Japan at a later date, especially by the artist potters of Kioto and at Inuyama.

2. The same colours with the addition of blue, *sous couverte*. The design often takes the form of figures in a landscape, the whole broadly treated. The earliest type of the Imari ware (apart from the Kakiyemon) seems to be based on this scheme of decoration.

Both these classes are distinguished by the white ground, the sparing use of yellow, and the almost complete absence of manganese purple and turquoise blue.

3. A transparent enamel of leafy green, yellow and manganese purple painted on in washes so as to cover the whole ground. When with these colours we find the outline drawn in black, we have the basis of a large part of the *famille verte*. On the other hand, it is this class of decoration which probably carries on the tradition of the early Ming ware, sometimes described as 'enamelled,' but more probably all of it painted on the biscuit and fired in the *demi grand feu*.

In China it would seem that these enamelled wares

1 2

PLATE VII CHINESE

were at first treated with a certain disfavour, if not with contempt, at least by the more cultivated classes. During Ming times, though porcelain thus decorated was doubtless made at King-te-chen, it was, at least up to the latter part of the reign of Wan-li, chiefly made in private factories. In fact we find a censor, in the reign of that emperor, protesting against the use of enamel colours (the *wu-tsai*) in the porcelain supplied to the palace (Bushell, p. 241).

We have now sketched out a description of the various kinds of porcelain made during the course of the Ming dynasty, and before going on at once to an account of the period associated with King-te-chen and the great rulers of the Manchu dynasty, it will be well to extract a few notes on points that may interest us from the somewhat voluminous records and descriptions of the porcelain of Ming times found in the books of the Chinese authorities.[1]

YUNG-LO (1402-24).[2]—This great emperor, who sent out ships for conquest and for commerce as far as Ceylon, is for us especially associated with a white egg-shell porcelain of which there are two remarkable specimens in the British Museum (see above, p. 67). Bowls of this thinness must have been pared down on the lathe, after throwing on the wheel, in the manner described on p. 22, until a mere translucent ghost of the original body was left, so that the name *to-t'ai* or 'bodiless,' by which this ware is known to the Chinese, is not inappropriate. The earliest blue and white porcelain of which there is any definite record was

[1] Much of this kind was translated by Julien, and a good summary may be found in Hippisley's paper contributed to the Smithsonian Institute, but the information from the same and other sources is more accurately translated and critically analysed in the seventh and eighth chapters of Dr. Bushell's great work.

[2] Yung-lo, according to the Chinese reckoning, did not commence his reign until the new year's day following the death of his predecessor (1403). I have, however, thought it better to adopt the European method of reckoning dates.

made in this reign, but the evidence for this is, of course, purely 'documentary.' The quality of the blue is said to have been surpassed only by that of the Hsuan-te and Cheng-hua periods.

HSUAN-TE (1425-35).—The short reign of this emperor is connected in the mind of the Chinese with the finest works both of the metal worker and the potter. This period gave its name to the famous pale bronze so admired in later days by the Japanese.[1] The blue of the Hsuan-te period, unsurpassed in later times, we are told, was derived from Arab sources, for the famous *Su-ni-po* and *Su-ma-li* blues are first mentioned at this time. The word *Su-ma-li* has been compared with the low Latin *Smaltum*, the prepared silicate of cobalt used by the mediæval glass-stainers, but from the description of this substance in the Chinese books, it would seem rather to have been of the nature of a native ore. When, however, we read in the same books of the origin of the brilliant red for which this reign was equally famous, how it was prepared from 'powdered rubies of the West,' we see how little reliance we can place in their accounts. This red, derived of course from the sub-oxide of copper, was applied either to cover the whole surface, as in the little bowls mentioned on p. 81 ('painted on the biscuit,' says Dr. Bushell, but is this necessarily so?), or for the painting of a design in this case both alone and in combination with blue. We hear also of large jars and garden seats of a coarse porcelain, with dark blue and turquoise ground and decoration of ribbed cloisons, which were first made in this reign. Of this class we have spoken at length when treating of the 'painted glazes.'[2] Of what nature the decoration in five colours, which is also

[1] The name *Sentoku* that they give to it is the Japanese reading of the characters forming this emperor's name.

[2] We may mention that a pair of wide-mouthed vases of this ware, shown at the Burlington Fine Arts Club in 1896, bore the nien-hao of Kia-tsing (1521-66) inscribed round the mouth.

referred to this reign, may have been, it is difficult to say —we have no specimen so painted that we can assign to so old a period, but in this connection we certainly must not think of enamels painted over the glaze.

CHENG-TUNG reigned from 1435 to 1449; he was then captured by the Mongols, and during the five years of his imprisonment his brother Cheng-tai reigned in his stead. When Cheng-tung returned from his captivity he adopted a fresh name.[1] This is the only instance of a double nien-hao in later Chinese history. We hear of Cheng-tai in connection with the introduction of enamels on metal, but for the history of porcelain both reigns are a blank.

CHENG-HUA (1464-87).—This is a name familiar to collectors. It is found more frequently than any other on highly finished vases dating really from the eighteenth century. Strangely enough, this is the favourite mark on the finest blue and white of this later time, although, as we have already pointed out, the Chinese books tell us that, the sources of the foreign cobalt blue being in Cheng-hua's time exhausted, more attention was given to coloured decoration. This was the time of the famous 'chicken-cups,' for which such fabulous sums were given. These cups are described as decorated with the wu-tsai or five colours; and the subject painted on them, a hen and chickens by the side of a flowering peony-bush, reminds one of the enamelled egg-shell cups of Kien-lung (1735-95). The Ming cups were copied, we are told, at that time; but it is difficult to connect this early ware, of which unfortunately we possess no specimen, with the delicate enamel decoration of the *famille rose*.[2]

HUNG-CHI (1487-1505).—This name appears especi-

[1] More properly a *fresh name was given to the period*, but for the sake of brevity we here as elsewhere identify the emperor's name with that given to the nien-hao.

[2] The Trenchard bowls, mentioned below, belong probably to this or to the following reign.

ally on the back of bowls in association with a yellow glaze of various shades, and, in agreement this time with the material evidence, the Chinese books mention this yellow as a speciality of the reign. Not that we can regard all yellow ware with this mark as even of this dynasty; like other Ming ware it was imitated in the eighteenth century. The yellow varies from the pale brown of the raw chestnut to a full gamboge tint. There is at South Kensington a dish or shallow bowl with a full yellow glaze; on the back beside the nien-hao of Hung-chi, a Persian inscription and a date corresponding to the sixteenth century has been cut in the paste.

CHENG-TE (1505-21).—The decoration of blue on a white ground is said to have been revived in this reign. A new material, the *hui-ching*[1] or Mohammedan blue, was obtained from Yun-nan. In connection with this, we can point to a curious collection of bronze and porcelain, with both Arabic and Chinese inscriptions, made probably for Mohammedan Chinese. These objects were obtained by the late Sir A. W. Franks from Pekin, and are now in the British Museum. Among them there are several pieces of blue and white with the Cheng-te year-mark.[2] On one of these pieces the Persian word for 'writing-case' forms part of the decoration (PL. VIII.). It is in this reign that we hear for the first time of the oppression exercised by the court officials upon the potters of King-te-chen, and now also we find the court eunuchs in the highest positions,—the great days of the Ming dynasty are already passed.

KIA-TSING (1521-66).—The name of this emperor is often found on blue and white porcelain, and it is a favourite one with the Japanese imitators. Some

[1] But this name is also applied by some to the older Su-ma-li blue.

[2] Perhaps the earliest nien-hao on a piece of blue and white in which we can place any confidence.

1

2

3

PLATE VIII. CHINESE, BLUE AND WHITE WARE

specimens in our collections, of a fine sapphire blue (the colour is indeed often inclined to run), may perhaps be referred to this reign. The demands for the court were very extensive, and if we are to trust the list of articles quoted by Dr. Bushell from the Fou-liang annals, the porcelain made for the palace during this period was, with the exception of a little of that with a brown ground, confined to blue and white ware.

LUNG-KING (1566-72).—The bad reputation of this emperor is reflected in the porcelain of the time—indeed the erotic character of the decoration is the one point noted in the annals. The mark of this reign is rarely found. There is, however, in the British Museum a large square support or plinth, decorated with a blue of magnificent sapphire hue, which bears the Lung-king nien-hao.

WAN-LI (1572-1619).—Of the porcelain surviving from Ming times, a very large proportion probably belongs to this reign. It was now that the European trade was beginning to reach large proportions, and the exportation both to India and Persia was greater than ever. It was a time above all for the manufacture of large pieces, but we must not look any longer for the refinement and scholarly traditions of earlier Ming periods. Dr. Bushell tells us that large bowls of the Wan-li ware are still in use in the shops and stalls of Pekin. For us the difficulty is to distinguish the blue and white ware of this reign from that made for exportation during the next half century, a period during which the annals of the Chinese authorities are a blank. The reign of Wan-li is above all the period during which the use of enamel colours became prevalent, and now, for the first time, some of the ware made for the palace was, in spite of the protests of the censor, so decorated. But we will reserve what we have to say on the origin of Chinese enamelled ware until we come to treat of the progress made in the reign of Kang-he.

CHAPTER VII

THE PORCELAIN OF CHINA—(*continued*).

THE MANCHU OR TSING DYNASTY (1643—).

KANG-HE.—After the death of Wan-li, in 1619, there is a long gap in the history of Chinese porcelain. Some twenty years later, the last emperor of the native dynasty was driven out by the Manchu Tatars, and the dynasty which still reigns in the country was founded. But neither during the reign of the first emperor of the new Tsing or 'Pure' dynasty, nor indeed during the first part of the long reign of his great successor Kang-he (1661-1722), was much attention given to the imperial factory at King-te-chen. The early years of Kang-he's reign were occupied with quelling the last efforts of the native Chinese party. We may date the revival of active work from the appointment of Tsang Ying-hsuan,[1] in the year 1683, to the post of superintendent at the porcelain works. It was then, after an interval of more than sixty years —almost a blank in the history of Chinese porcelain— that the great renaissance set in, and we may date from that time the beginning of the last great stage in that history—a stage which was to last for another hundred years. During that period a succession of able and

[1] A predecessor of his as viceroy and superintendent at King-te-chen was *Lang Ting-tso*, from whom the famous Lang yao, the *sang de bœuf*, had its name, though this derivation is not absolutely certain. It could only have been quite in the last days of the latter viceroy's rule that much good work was turned out from the kilns.

enthusiastic men were in charge of the imperial works. With the support of the great emperors who ruled in China for three long generations, they were able to bring the manufacture of porcelain to a point of perfection reached neither before nor since, and to produce that wonderful series of vases, bowls, and plates that now fill the museums and private collections of Europe and America.

It will perhaps be better to carry on our hasty historical sketch down to the period of decline at the end of the eighteenth century, before turning to the letters of the Père D'Entrecolles and his account of the great city of the potter—King-te-chen. We shall then be in a better position to understand the almost endless series of different wares that were turned out from the kilns of that town in the eighteenth century. We can finally make a rapid survey of the porcelain of China, picking up many threads that have been dropped in the course of our historical review.

We have seen that the Chinese authorities when describing the coloured ware of the Ming period speak of two 'triads' of colours. One, the *turquoise*, purple and yellow group, we have identified with the ware painted on the biscuit and reheated in the *demi grand feu*; while the other, the *green*, purple and yellow class may be regarded as one of the earliest forms of true enamel or muffle decoration. These two classes were now in the earlier days of Kang-he brought to greater perfection, and as by this time we have come to a period when the finer wares began to be largely exported direct to Europe, we meet with many specimens of these wares in our collections.

In the first of these groups the *Turquoise* is the predominant colour—indeed it is often found alone (Pl. IX.). As a monochrome ware it is distinguished by a fine crackle, which is always present but is often only to be seen by a close examination. How much

it is sought after by collectors is shown by the fact mentioned by Dr. Bushell, that in the Walters collection there are more than a hundred specimens of this monochrome blue, and of these the majority probably date from the reign of Kang-he. A combination of this turquoise with aubergine purple derived from manganese was in favour at this time not only for the little *magots* and for small vases, but also for larger decorative pieces as well as for tables and stands for other objects. It was above all this combination that was copied by Zengoro and others for the 'Oniwa' ware of the Princes of Kishiu, and some of this Japanese porcelain is very difficult to distinguish from the Chinese original. The aubergine purple, like the turquoise, always finely crackled, is seldom found alone in Chinese examples, but this is often the case on the Kishiu ware. The third colour of the triad, the yellow, is quite subordinate; there were evidently great difficulties in producing a fine tint under the conditions of the *demi grand feu*. In like manner in the early Ming ware, that with the ribbed cloisons, the yellow was only used sparingly for the petals of a flower or for a chain of pearls. It should be noted that this ware of Kang-he differs from its Ming predecessor in the absence of the dark blue glaze.

FAMILLE VERTE.—In the first triad, that of the *demi grand feu*, the turquoise blue, as we have seen, is the predominant colour. Its place is taken in the triad of the muffle-stove by the green, which in many shades of intensity, but with a prevailing leafy hue, has come to be especially associated with the enamelled wares of this reign.[1]

[1] It will be observed that the turquoise blue and the green, both derived from copper, so happily combined in the wall-tiles of the Saracenic East, are in China rarely found united in the decoration of the same piece, and this arises from practical difficulties connected with the fluxes and the firing. At least the two colours are never *successfully* combined, for the attempt was apparently made in Ming times, and of this some instances are given in the following

1 2 3

PLATE IX CHINESE

It would be possible to make many subdivisions of this class—the well-known *famille verte*. In the majority of cases the ground is covered by a wash of one of the colours, so as to resemble a painted glaze. It will, however, always be found on close examination that the wash is *superimposed* on the true colourless glaze, which may generally be seen at the mouth and foot. A green of greater or lesser strength, sometimes quite a thin wash, is the commonest colour for this ground; at other times it is of a pale straw colour, or, more rarely, a purple of a poor uncertain hue.[1]

It will be observed that in the muffle-stove the fine aubergine purple that we noted in the class last described is rarely to be obtained from manganese. In all cases the white ground is only left sparingly as a reserve for the petals of flowers and for the faces. In addition to these colours—the green, the yellow, and the purple—which are for the most part used as washes, a dark brown or black is largely employed for outlining the details of the decoration, as well as for tempering

note. Indeed I should be inclined to regard such a combination on any piece as an evidence of early, probably of Ming, origin.

[1] I would especially point to a remarkable water-vessel, about ten inches high, in the collection at Dresden. This vase is in the form of a phœnix. *Green*, as well as *turquoise*, purple and yellow are all found in the decoration, and the colours are all well developed. There is in the British Museum—a collection in many ways remarkable for the number of exceptional types illustrated—a jar with cover, of this class. The ground is a dull purple covered with small spirals of black; the rest of the decoration—rocks, waves, flowers, and jewels—is mainly green of two shades with a little yellow. On some of the flowers, however, we see a poor attempt at turquoise blue. Next to this example stands a baluster-shaped vase with tall, straight neck (Pl. VII. 2.). The ground is here of a pale greyish yellow, with crackles of a darker shade—so far, in fact, of a Ko yao type. The decoration is of a predominant leafy green, with a little purple and yellow here and there; but on the flowers we find, in addition, an enamel of turquoise, poor in colour, indeed, but certainly a copper blue. Both these examples are classed as Ming, and both would seem to show that the combination of the turquoise enamel (essentially a silicate of copper and soda) with the lead-fluxed green had been attempted in Ming times. It was, however, impossible to obtain satisfactory results in this way, so that in Kang-he's time the turquoise was reserved for the *demi grand feu*, and the green alone used as an enamel over the glaze.

the colour of the background by covering it with scrolls and spirals.

When this decoration is applied to the small moulded pieces—the *magots*, for instance, so admired by the French collectors of the eighteenth century—we have a class of objects to which the descriptions (in the Bushell manuscript and elsewhere) of the decorated ware of the fifteenth and early sixteenth centuries would seem to apply. As we have seen, it is at the least very doubtful whether these early pieces were decorated *over the glaze*, but in a general view it cannot fail to strike one that the Kang-he decoration, in which washes of colour[1] play so important a part, belongs to an earlier school than that of the Wan-li porcelain, with its designs and medallions scattered over a white ground. These last patterns are, it would seem, derived from textile fabrics, from the rich brocades of the time, both Chinese and, possibly, foreign. In the *famille verte* of Kang-he's time, on the other hand, we may perhaps see a return, in general effect at least, to the *san-tsai* and *wu-tsai* painted glazes of earlier Ming time.

When in place of the wash of green (or may be of yellow) the background is formed by a black enamel, we still feel the prevailing influence of the green in the decoration, so that these black-ground vases are rightly included in the *famille verte*. The black background itself is often of a greenish quality, and in the designs the camellia-leaf green is predominant; yellow and purple are but sparingly introduced, but the effect is heightened by the white reserves (PL. X.). In many cases a wash of green appears to have been carried over the black ground. This green enamel may be often seen overlapping, as it were, on the foot of a vase.

It would be difficult to find in the whole range of Chinese porcelain anything more superbly decorative

[1] 'Muffle-colours,' of course in these later examples painted over the glaze, and therefore to be classed as enamels.

PLATE X CHINESE

63961

than some of these large black-grounded vases in the Salting collection. We would call attention to one example on which the thin skin-like glaze of the dull ground and the somewhat archaic drawing of the great dragon that curls round the side suggest a date earlier than that of its companions (PL. XI.). And yet these fine vases are wanting in two elements which we are accustomed to regard as essential to the best porcelain: they neither display to any extent the natural white colour of the paste,[1] nor is the outline dependent on the motion of the clay under the potter's hand. Nearly all these vases, as indeed most of the large vessels of this time, are built up from segments made in moulds.

What rich effects of colour are here obtained with a palette so restricted! Perhaps not a little of the beauty of this decoration is due to this very restriction. It will be noticed that we have in the more characteristic examples a total absence of all shades both of red and of blue.

In the other not less important division of the enamel decoration of this time these last two colours are added, and we come again to a pentad of colours—not, however, quite the same as the *wu-tsai* of Wan-li times. We are still under the influence of the *famille verte*: the leafy green in two or more shades remains the predominant colour, the opaque red is used more sparingly than in the later Ming enamelled ware, and above all the cobalt blue is now used *as an enamel colour over the glaze*. This latter use points to an important advance in technique, and it affords an easy means of distinguishing the wares of the two periods. The new method of employing the blue is, however, often only to be recognised by close examination in a favourable

[1] In this respect we may compare such decoration to a dark water-colour drawing on white paper, where advantage is only taken of the white ground for scattered lights here and there.

light. What at once distinguishes the newer ware is rather the displacement of the opaque red of the Ming porcelain by the characteristic green of the Kang-he time as the *dominant* colour. When this full complement of five colours is used, the general scheme of the design, however, follows more on the lines of the Wan-li ware; we find sprays of flowers or figure subjects relieved upon the white ground. But the drawing of the newer ware is somewhat more realistic, and there is generally a greater finish. In rare cases the five colours are combined with the black ground, as may be seen on two large vases in the British Museum, but the effect is not so happy as that obtained with a simpler range of colours.

There is another position in which these five enamel colours may be found together—in the decoration of the white reserves left between grounds of *bleu poudré* and *fond laque*. This was a form of decoration much admired in Europe, and one of the earliest imitated. This *fond laque* ware of various shades, with reserved panels decorated with flowers or figures, has retained among dealers the designation of Batavian porcelain, a name which, like our old terms Gombroon and East Indian, throws light on the route by which it reached Europe. The deep blue vases covered with elaborate designs in gold were also exported before the end of the seventeenth century; of these large specimens have been sometimes found in India. There is a tall vase of this ware in the Indian Museum at South Kensington —the gilding, as is often the case, has almost entirely disappeared.

In the historical development of our subject, which we are now following with greater or less strictness, we are only concerned with important developments and fresh types as they from time to time arise. We have therefore little to say for the present of the blue and white and of the wares with monochrome glazes of which we

LIBRARY
OF THE
BOMBAY
BRANCH
OF THE
ROYAL ASIATIC SOCIETY

Chinese. Black ground.

have so many superb specimens dating from the reign of Kang-he. We must, however, mention in passing the brilliant *sang de bœuf* vases especially associated with the early years of this emperor. As in the case of the 'transmutation' or *flambé* glazes, the deep red colour of this ware is produced by the action of a reducing flame upon a silicate of copper. It is known in China as Lang yao, and there has been some misconception as to the origin of the term. If, as the best authorities tell us, we are to derive the name from Lang Ting-tso, the famous viceroy of the Two Kiangs (the provinces of Kiangsi and Kiangnan) at the time of the accession of Kang-he, the earliest form of this Lang yao must be associated with a period (say about the years 1654-1668) which is otherwise quite sterile in the annals of Chinese porcelain.

YUNG-CHENG (1722-1735).—When in 1722, after a reign of more than sixty years, Kang-he,[1] perhaps the greatest of all the emperors of China, died, we find a note of alarm sounded by the Jesuit fathers. Unlike his father, Yung-cheng the new emperor was regarded as a supporter of the most conservative traditions, and no friend of the Christian missionaries. What, however, is important to us is the fact that as crown-prince he was known not only as a patron of the works at King-te-chen, but as himself an amateur potter of distinction. The Père D'Entrecolles, writing before Yung-cheng's accession to the throne, tells us that it was his habit to send down from Pekin examples of ancient wares to be copied at the imperial factory. This influence, exercised in a conservative direction, is reflected in the porcelain produced during his reign.

This is indeed a critical point in the history of Chinese porcelain. We are reminded of some similar

[1] We must always think of this great man in connection with his contemporary in France, Louis XIV. Omitting the early years of the French king, before he attained his majority, the two long reigns run almost exactly together.

periods in the development of our Western arts, when it begins to become evident that a command of material and a technical finish have been attained at the expense of all spontaneity and freshness of expression. Some such tendency was accompanied at this time in China by a careful and deliberate imitation of ancient forms and glazes. Under Nien Hsi-yao, the new superintendent at King-te-chen, some advance was certainly made—we shall speak of the *Nien yao* and the new colours that distinguished it directly. We must not overlook, however, the influence of the foreign demand which more and more made itself felt, an influence opposed to the conservative and classical tastes of the emperor.

But when we run through the long list, under fifty-seven headings, of the various wares copied at King-te-chen at this time,[1] we see how strong this classical influence was. In fact, this catalogue is one of our best sources of information for the ancient, and especially for the Sung, wares. The chief concern of the compiler was with the glazes, for no attempt seems to have been made to copy the thick and rough pastes of the early days.[2] We can infer from some of the heads of the list that most of the highly perfected glazes of the day, ranging through every shade of colour, were considered to be but modifications of the old simple glazes of Sung times. This was an essentially Chinese way of looking at the matter, and by this indirect path it was possible to reach the most novel effects. Among the later headings of Nien's list (it was to some extent chronologically arranged) we find mention of copies of Japanese wares, and frequent reference is made to colours and decorations of European origin.

[1] This list is to be found in Julien's book. Dr. Bushell has since given a more accurate translation, accompanied by a careful analysis (*Chinese Ceramics*, chapter xii.).

[2] The red paste of early times was, however, imitated, and a 'copper paste' is also mentioned in connection with these old wares. The last expression is obscure, but it has certainly nothing to do with an enamel on copper.

We shall have to make more than one reference to this important catalogue in a later chapter.

It was under the *régime* of Nien Hsi-yao that this list was drawn up. He was the second of the great viceroys whose names are associated with the emperors Kang-he, Yung-cheng, and Kien-lung respectively. He succeeded to Tsang Ying-hsuan, and was followed in the next reign by Tang-ying. The wares made during the administration of these superintendents are known in chronological order as *Tsang yao*, *Nien yao*, and *Tang yao*. This Nien did not regard his post by any means as a sinecure. He frequently visited the works, and required samples of the imperial ware to be sent every two months to his official residence for inspection (Bushell, p. 361).

The *Nien yao*, to the Chinese collector, is especially associated with certain monochrome glazes—above all with the *clair de lune*—the *yueh pai* or 'moon-white,' and with a brilliant red glaze with stippled surface, a near cousin to the *sang de bœuf* and *flambé* classes. There is another 'self-glaze' ware which dates from this time, of which the mingled tints depend, as in the case of the *flambé*, upon the varying degrees of oxidation of the copper in the glaze. This is the 'peach-bloom,' the 'apple red and green' of the Chinese. The charm of this delicate ware is of another kind to that to be found in the vigorous flashes of colour of the transmutation glazes.

We can trace at this time the gradual introduction of two new colours that give so special a character to the wares of the next reign. I mean the pink derived from gold and the lemon-yellow. These colours were used sparingly and with great delicacy at first, but we come to associate them at a later time with a period of decline and of bad taste.

KIEN-LUNG (1735-1795).—It was during the long reign of this emperor, poet and patron of all the arts, that

the new direction which we find given to the porcelain made in the reign of his father, Yung-cheng, became even more accentuated—on the one hand, the copying of old glazes and the employment of archaic hieratic patterns for decoration, on the other, the more and more frequent use of new colours and new designs of non-Chinese origin. This latter tendency was fostered both by the eclectic tastes of Kien-lung himself and also by the increasing importance of the demand for foreign countries. Great care was given to the paste—it was required to be of a snowy (or rather sometimes chalky) whiteness, tending neither towards yellow nor towards blue, and so carefully finished on the lathe that on the uniform glassy surface of the finer specimens no signs were left of the movement of the potter's wheel;[1] for compared with the ware produced in Ming times, and even during the reign of Kang-he, we now note the greater proportion of pieces thrown on the wheel. At no time has the skill of the potter who threw the clay, and of the workman who then pared and smoothed the surface on the lathe, been brought to a greater perfection, and this applies not only to the egg-shell china, but to the large vases and beakers, so perfect in their outline. The same perfection of technique is found in the decoration, so that a blue and white vase of this period can at once be recognised in spite of the pseudo-archaic decoration and the Ming *nien hao* inscribed on the base. When the new colours are introduced the date is, of course, approximately fixed, and we may probably associate with the beginning of this reign (or perhaps a little earlier; see note on p. 110) the first use of the *rouge d'or* which has given its name to a well-known class of porcelain—the *famille rose*.

[1] On the other hand, on some large showy vases of this time we can trace a series of rings, giving an uneven surface. These are caused either by the undue pressure of the potter's fingers (*vissage*), or perhaps in part by the way in which the successive stages of the jar were built up with 'sausage-shaped' rolls of clay.

A manageable red had long been a desideratum. There was no more treacherous material than the basic copper oxide, whether painted under or mixed with the glaze. As an over-glaze source of red this pigment was of course unavailable, while the opaque brick-like tints obtained from iron, though in keeping with the rougher, picturesque decoration of early times, did not harmonise well with the delicate style of painting now in fashion,[1] so that it is not surprising that the beautiful pink tint obtained from gold carried all before it. The gold was probably incorporated with the enamel flux in the form of purple of Cassius, which is readily prepared by dissolving gold in a mixture of nitric acid and sal-ammoniac and adding some fragments of tin. The colour had been known for some time in Europe—we can perhaps even trace this pink tint on enamelled Arab glass of the fourteenth century (see p. 89).[2] A very small quantity of this material goes a long way, especially when used to give a gradated tint to a white opaque enamel, as on the petal of a flower. As a colour it is singularly harmonious, and in a period of decline helped to 'keep together' the motley array of enamels used along with it.

There is nothing more popular in the work of this time than the little egg-shell plates, decorated with flowers and birds, for which such high prices are given by collectors. The original type, for both ware and decoration, is probably in this case to be found in the 'chicken-cups' of Cheng-hua's reign.

On the plates of this ware the borders are filled with elaborate and minutely finished diapers and scrolls, evidently taken from silk brocades; indeed,

[1] How this iron red was manipulated, apparently at a transition period, so as to obtain an effect approaching that of the *rouge d'or*, is described on page 162.

[2] A ruby-red can be obtained by careful manipulation from gold alone. We may regard the addition of tin as a convenient method of developing the colour which was apparently known to the mediæval alchemists.

the gold threads of the woof are sometimes directly imitated; the centre is occupied by a picture, either a flower piece or a *genre* figure scene (PL. XII.). We may connect these designs with the works of the naturalistic colour school of the time, many of the finest of which have been preserved by Japanese collectors. A very frequent subject is a rocky bank from which grow peonies, narcissi, or other flowers, and under which two or more chickens or sometimes quails are grouped. The petals of the flowers are rendered by a white opaque enamel in high relief, often with a flush of pink, imitating the *tour de force* by which the painters of the time, by a single stroke of the brush, produced a full gradation of colour. Indeed, the same artists doubtless painted both on silk, on paper, and on porcelain. We may compare their work to that of the fan-painters and miniaturists who were employed to decorate the panels of Sèvres porcelain, at this very time, with pastoral scenes and flower pieces. The Chinese enamellers rarely signed their work; but there is a plate in the British Museum with the name of a Canton artist. This gives a hint as to where most of the work was done. But the most remarkable instance of signed work of this period is found on a series of large plates in the Dresden Museum. On these a Chinese artist, some time before the middle of the eighteenth century, has painted a series of designs of birds and flowers, and in one instance at least a graceful female figure. On the field, in each case, we find a seal character (accompanied either by a smaller mark contained in a circle, or by an artemisia leaf) which indicates the painter's name. With true artistic feeling he has succeeded in filling the surface of the plate with a graceful decoration, and at the same time he gives us a series of delightful pictures, employing the full range of the enamel colours at his command. And in thus combining a decorative design with an accurate

1

2

PLATE XII CHINESE

rendering of natural objects, the Chinese artist has succeeded in doing what has never been accomplished by any European painter on porcelain.

In decoration of this kind, however, only the very best work pleases; in anything below this we get at once to what is vulgar and trite; and the larger palette now at the painter's command only makes it easier for him to produce the unpleasant combinations of colours so frequent in the wares exported from China after the end of the eighteenth century. On the other hand, the older painters, confined to their three or at most five colours, seldom fail to produce an agreeable effect, however roughly their colours are daubed on.

In the *genre* scenes, as in the case of the flower pieces, a realistic tendency is prominent. We have no longer the Taoist saints or the hunting and battle pieces of earlier times, but delicately executed interiors with graceful figures of girls arranging flowers or painting fans, or again, landscapes with men travelling by road or by river. There is a refinement of colour and a charm of drawing and composition in the better specimens of this somewhat effeminate school that appeals to every one. It is difficult for us to find any marked European influence in the designs of this time, and yet these pictures are classed by the Chinese as European in style; and it is not quite clear whether this refers only to the enamel colours employed or to the manner of drawing as well. Most of the work of this kind was doubtless made for the European market and painted at Canton. But is this the case with the finest examples? Kien-lung himself was, it would seem, no despiser of this carefully decorated ware. A poem of his composition, signed with the vermilion seal, is often found on this egg-shell porcelain.

On some of the most highly finished of the little cups and plates we find an elaborate scroll decoration in gold and sometimes in silver; and in these designs

we may perhaps trace the influence of the baroque style in vogue at this time in Europe.

Nien resigned his post when his master in the year 1735 had 'flown up to heaven like a dragon,' and the new emperor, Kien-lung, appointed in his place Tang-ying, who had long served under him. The new director was no less an enthusiast than his predecessor. He tells us in his memoirs—for he was a man of literary taste like his master, Kien-lung—that he served his apprenticeship with the workmen, sharing his meals and his sleeping-room with them, following in this the proverb which says 'the farmer may learn something from his bondman, and the weaver from the handmaid who holds the thread for her mistress.'

We hear that new tints of turquoise (*fei-tsui*) and of rose-red (*mei-kwei*) were introduced by him, and we may perhaps identify these colours with certain shades of pink and turquoise blue that became prevalent about this time. In both these cases the pigment is mixed with some amount of arsenic or tin so that the enamel is nearly opaque, and this enamel is now spread over the ground, taking the place of the glaze which lies beneath. The effect, though apparently admired by some collectors, is heavy and unpleasant. The pink, which we may consider as a Chinese equivalent of the *rose Pompadour* (it is uncertain whether the French or the Chinese were the first to use the *rouge d'or* colours), is generally more or less opaque, with a granular surface; it is often found covering a paste inscribed with fine scrolls.[1]

[1] It would be a point of special interest to determine the date when these two colours—the pink (used as a ground) and the opaque turquoise blue—were first used in China. Their presence together with the lemon-yellow gives perhaps the first note of a period of decline. There is in the British Museum a bowl and saucer covered on the outside with this rose enamel and bearing this unusual inscription—'the *Sin-chou* year occurring again.' This expression was referred by Franks to the sixty-first year of the reign of Kang-he, when the cyclical year in which his reign began recurred again, an unprecedented fact in

1

2

3

PLATE XIII. CHINESE

In the case of the pale opaque blue (to which the name of turquoise may be applied more aptly than to the sky-coloured transparent blues of the *demi grand feu*), the surface of the enamel is sometimes painted with an irregular net-work of black lines, as if in imitation of some kind of marble. This turquoise enamel towards the end of Kien-lung's reign was often applied to the surface of large vases, and when in combination with a lemon-yellow decoration the effect is even more unpleasant than when used alone.

We have mentioned, when speaking of Yung-cheng's reign, a valuable list of the various kinds of porcelain made at that time at King-te-chen. We must now refer to another document, quoted, like the list of Nien's time, in all the Chinese books dealing with the history of the imperial porcelain works. The emperor Kien-lung, it would appear, when overhauling certain manuscripts preserved in the palace, came upon a series of twenty water-colour drawings illustrating the manufacture of procelain. He at once summoned Tang-ying, the famous superintendent at King-te-chen, to Pekin, and, handing over the drawings, commanded him to prepare a full description of all the processes illustrated in these pictures. This was in 1743, shortly before Tang's retirement. The drawings themselves have never been made public; but we have in Tang's report what is, after the letters of the Jesuit father, our most important source for the technical details of the manufacture of porcelain in China. With these details we are not concerned just now, but we will quote from Dr. Bushell's translation a disquisition

Chinese history. In the same collection is a saucer-shaped plate with a pale pink ground with the mark of the period Yung-cheng. But the evidence in favour of a somewhat later date for the fully developed use of the *rouge d'or* seems to me fairly strong. Dr. Bushell, however, tells me that he has seen other examples where the same inscription is found upon ware decorated with the *rouge d'or*, and that he accepts the early date (1722) on the Sin-chou plate. I return to this question on page 136.

on certain principles that should govern the forms and decoration of porcelain. This is a kind of *obiter dictum* of Tang-ying, *à propos* of the fashioning and painting of vases. In his flowery style he tells us (I abbreviate in a few places): 'In the decoration of porcelain correct canons of art should be followed. The designs should be taken from the patterns of old brocades and embroidery; the colours from a garden as seen in spring-time from a pavilion. There is an abundance of specimens of ware of the Sung dynasty at hand to be copied; the elements of nature supply an inexhaustible fund of materials for new combinations of supernatural beauty. Natural objects are modelled to be fashioned in moulds and painted in appropriate colours. *The materials of the potter's art are derived from forests and streams, and ornamental themes are supplied by the same natural sources.*'[1] It is a strange fancy which connects the decoration of a vase with the source of the materials with which it is made. Elsewhere, speaking of the painting of the blue and white ware, Tang-ying says: 'For painting of flowers and of birds, fishes and water-plants, and living objects generally, the study of nature is the first requisite. In the imitation of Ming porcelain and of ancient pieces, the sight of many specimens brings skill.' We see in this a kind of hesitation, a balancing between two influences—the naturalistic and the traditional—which is characteristic of the period.

We may call attention, by the way, to the important place that is given in this report to the process of moulding in the fashioning of a vase, especially as *supplementary* to the throwing on the wheel, and above all, to the care required in the turning and polishing on the jigger or lathe to ensure accuracy of outline in the finished piece.

[1] Julien omitted this curious passage in his translation as devoid of interest!

The last picture described by Tang-ying illustrates the worshipping of the local god and the offering of sacrifice. And we are told the story of how, when the great dragon-bowls failed time after time; and when, in consequence, the workmen were harassed by the eunuchs sent down by the Ming emperor, Tung the potter leaped into the furnace; and how, after this sacrifice, when the kilns were opened, the bowls were at last found perfect in shape and brilliant in colour. So Tung was worshipped as the potter's god; and, indeed, Tang-ying tells us, as a voucher for the truth of his story, that in his time one of these very dragon fish-bowls, 'compounded of the blood and bones of the deity,' still stood in the courtyard of the temple, a witness to the sacrifice (Bushell, chapter xv).

Tang-ying resigned his post in 1746; his influence was therefore only felt during the first years of Kien-lung's long reign. His is the last name that can be personally connected with any Chinese ware, unless it be that of the emperor his master.

Kien-lung was a poet, and a very productive one —his complete works were published in an edition of 360 volumes, containing nearly 34,000 separate compositions. These are generally occasional pieces suggested by the aspects of nature. Such verses are not unfrequently found on the egg-shell porcelain of his time, signed, too, with the vermilion pencil. There is quite a long poem of his on a dish of thin ware now in the Musée Guimet in Paris.

The emperor interested himself in a new kind of opaque glass made in Pekin by a skilful artist, one Hu, and he sent specimens of this ware to King-te-chen to be imitated in the nobler material, as he deemed it. This was effected by means of a very vitreous paste, and the little snuff-bottles moulded in high relief in this material are much prized both by Chinese and American collectors.

There was, indeed, at this time a rage for imitating other substances in porcelain, which was doubtless fostered by the increased command of technical processes and of new colours. A good deal of the porcelain covered with black or sometimes brown lacquer,[1] inlaid with mother-of-pearl, the *laque burgauté* of the French, dates perhaps from an earlier period. But the little snuff-bottles, imitating jade, pudding-stone, agate, turquoise, as well as silver, gold, and bronze of varied patinas, or again the rusted surface of iron—to say nothing of wood, bamboo, and mother-of-pearl—may, with few exceptions, be attributed to this time. We may compare such work to the contemporary triumphs of the Japanese in lacquer.[2]

But by the middle of the century it is no longer the demand of the court that gives the general tone to the productions of King-te-chen. The taste for Oriental wares had spread among the middle classes in Europe. The English were taking the place of the Dutch as the principal exporters, and this change was reflected in a demand for a gaudy ware crowded with a motley array of figures, the 'mandarin china' properly so called. As to the extensive class of porcelain painted with coats-of-arms and other European designs, a class well represented in the British Museum, we will only mention that the greater part was decorated at this time by a special school of artists at Canton, though some pieces date from a somewhat earlier period.

KIA-KING (1795-1820), the son and successor of Kien-lung, was like his father a poet, but a man of weak and dissolute character. The high finish of the previous reign was, however, maintained, and the pieces

[1] There are two magnificent vases of the black lacquered ware, each about eight feet high, in the Musée Guimet, and of the brown variety a well-preserved spherical bowl may be seen at South Kensington.

[2] The snuff-bottles of the Chinese represent the *inro* of the Japanese. Both were originally used for pills and for eye medicine.

marked with this emperor's name are sought after by Chinese collectors.

TAO-KWANG (1820-1850).—It is surprising that so much really good porcelain was made at a time so troubled by foreign wars and internal rebellion. In some of the blue and white ware of this and even the next reign, we may sometimes see a return to the breadth and boldness of treatment characteristic of earlier days. In the coral-red grounds of this time, the intractable iron oxide appears to have been more thoroughly incorporated with the glaze than at any previous period. It is to this reign that we may assign the 'Pekin' or 'Graviata' bowls, with reserved panels on the outside filled with flowers, landscapes, etc., in many coloured enamels. The ground is often of a pinkish *rouge d'or*, or in other instances of lemon yellow, blue or pale lavender. The inside of the bowl has a decoration of blue and white.

HSIEN-FENG (1850-61).—As at the beginning of this emperor's reign the Taiping rebels broke into Kiang-si and burned down the town of King-te-chen, this period is of necessity a blank in the history of porcelain.

TUNG-CHI (1861-1874).—In the third year of this reign the rebels were driven out from King-te-chen and the imperial works rebuilt. A large order was at once sent from Pekin for porcelain of every description. The details of this order, the latest of the lists of this kind to be found in the *Annals of Kiang-si*, are only given in the edition of that work published since the date of Julien's translation. This list is translated by Dr. Bushell, fifty-five headings in all, and we find in it a curious instance of the survival of the old traditions. All the wares mentioned in the older lists are now again requisitioned for the use of the court.

The Empress-Dowager, who has held the reins during the minority both of Tung-chi and of his

successor, the present emperor, is reputed to be something of a connoisseur,[1] and to take an interest in the imperial manufactory. Some of the better class wares from the palace and from the temples at Pekin have quite lately found their way to England, and specimens may be seen on loan at South Kensington. I notice especially a set of five vessels in deep blue from the Temple of Heaven. The execution appears to be careful, but the forms are ugly and the blue of an unpleasant tint. In vessels of this kind, however, both shape and colour may be governed by tradition. Mr. Hippisley, who has lived long in China, says that for some years past the *famille verte* wares of Kang-he's time, especially the vases with black ground and prunus flowers, have been fairly well reproduced at King-te-chen, as have, later still, the so-called 'hawthorn ginger-jars.' But in China, as in France, it is with the difficulties of the copper glazes, the *flambé* and the *sang de bœuf*, that the majority of our contemporary ceramic artists are striving.

[1] Dr. Bushell tells us that she is an accomplished artist and calligraphist, and that her autograph signature is much valued. She is said to have sent down from the palace, to be copied at King-te-chen, bowls and dishes of the time of Kien-lung, just as that emperor in his day forwarded from Pekin examples of Sung and Ming wares with the same object. So the old tradition is kept up!

CHAPTER VIII

THE PORCELAIN OF CHINA—(*continued*).

MARKS

WE may here conveniently say something of the marks found on Chinese porcelain. We do not propose to give any systematic account of these marks—this is a subject indeed to which a disproportionate amount of space has perhaps been devoted in some works on porcelain—but rather to collect a few notes on points of interest.

Tang-ying in his report to the emperor on the manufacture of porcelain, from which we have lately quoted, tells us that during all the processes of turning on the lathe, painting and glazing, a solid bar is left at the base of the vase by which it is conveniently handled. This bar or handle is at length cut off short, and the base of the stump is scooped out to form the foot of the future vessel. It is at this stage that the inscription is written by a special artist on the centre of the base, and then brushed over with a coat of the glaze, which does not extend over the rim to join the rest of the glazed surface. Thus we see that the writing of the inscription and the glazing of the base are subsequent to and independent of the decoration of the rest of the vase. In whatever style this decoration may be, the inscription is generally written in cobalt blue under the glaze.

There are many varieties of Chinese writing. We

pass from the oldest 'tadpole' forms, by way of the *chuan* or seal character, to the *kai-shû*, which takes the place roughly of our ordinary printed letters. Of this last, the square detached strokes pass when written with a brush into the more flowing 'grass' character. The *kai-shû* style is the one most frequently found on porcelain, or at least a form something between it and the grass hand. The seal character, however, was much favoured by the Manchu emperors, and since the time of Kang-he has been practically the only one used for the imperial *nien-hao* (PL. A. 10-12).[1]

The Chinese have two methods of indicating a date: first, by a cycle of sixty years; second, by the name given to the whole or part of the reign of an emperor. With the first we are not concerned, it is found so rarely on porcelain.[2] The other, the imperial date or *nien-hao*, has been in use ever since the time of the Han dynasty (say roughly from the beginning of our era). Very early dates of this kind are often found on bronzes, where, however, they are no more to be relied on than in the case of porcelain. The inscription occurs in two forms:—first, the six word form where the emperor's name is preceded by that of the dynasty, thus: *Ta Tsing Kang-he nien chi*,—'Made in the reign of the Emperor Kang-he of the great Tsing or Manchu dynasty' (PL. A. 8); or second, the first line with the name of the dynasty may be omitted, leaving only the emperor's name and the words *nien chi*, 'year made,'—for example, *Cheng-hua nien chi* (PL. A. 3).

The name by which we know the emperor of China was not his personal or family name, but was assumed on ascending the throne, and in old times was frequently changed. But from the time of the Sung dynasty such a change has only once occurred.

[1] These references are to the plates of marks at the end of the book.

[2] See, however, p. 110 note, for a curious instance of its use.

This was in the case of the unfortunate Ming emperor Cheng-tung, to whom we referred on p. 93. We rarely find the name of any emperor of an earlier time than the Ming dynasty on porcelain, and the few instances that do occur are obvious forgeries. Perhaps the earliest date on Chinese porcelain with any claim to authority is the *nien-hao* of Yung-lo (1402-25), in quaint 'tadpole' characters engraved in the paste beneath the glaze. This inscription occurs on the thin bowl of Ting ware in the British Museum, described on page 67 (PL. A. 1).

We have said before, and we cannot too strongly impress this fact upon the reader, that the vast majority of the Ming marks so frequently found on Chinese porcelain are of no value. They teach us nothing themselves, and when we can accept them it is on evidence derived from other sources. As Franks observed many years ago, all we can say is that a piece of porcelain is not older than the date which it bears.

When we find the date inscribed in a horizontal line round the neck of a vase, as is not infrequent in later Ming times, especially in the reign of Wan-li[1] (1572-1619), more reliance may perhaps be put on it, as regards ware of Chinese origin at least, for the Japanese were very fond of decorating their blue and white ware with Ming inscriptions placed in this position.

We have innumerable vases in our collections undoubtedly made in the reign of the great Kang-he (1661-1722),[2] but his reign-mark is comparatively rarely found. The absence of this *nien-hao* is usually explained by a proclamation, issued in 1677, which has been preserved in the Chinese books, forbidding the

[1] A good example of a date-mark of Wan-li in this position may be seen on the vase reproduced on PL. VII. Fig. 2.

[2] Why, by the way, do we find, in catalogues otherwise well edited, porcelain ascribed to the Kang-he *dynasty*? One might as well speak of the Louis XIV. dynasty.

inscription of the imperial name on porcelain. With this proclamation the empty double ring of blue often found on the base of vases of this time may perhaps be connected. Many of the finest pieces, however, bear no mark of any kind.

In place of these date-marks we may often find an inscription stating that the piece was made at a certain *Tang*—for example, *Shun ti tang chi*—literally 'Cultivation virtue hall made' (PL. B. 17). We have here translated the character *tang* by the somewhat vague word 'hall,' but it is doubtful whether the inscription should be rendered 'made for the Shun-ti pavilion,' *i.e.* for the imperial palace, or rather, 'made at the Shun-ti hall,'—that is to say, at the studio or factory of that name, presumably at King-te-chen. The best authorities, however, are in favour of the latter rendering (Bushell, p. 78 *seq.*, and the Franks *Catalogue*, p. 213), and they regard these so-called hall-marks as more or less equivalent to the signature of the manufacturer. The character *tang* is sometimes replaced by other words, as *tsuan*, a balcony; *ting*, a summer-house; or *chai*, a studio. This last word is the Japanese *sai*, which so often forms a part of the adopted names of Japanese artists, as for example Hoku-sai, which means the 'northern studio.' The Japanese potter often signs his work, and even in China we find in a few cases a name, that of the painter, inscribed in the field of the decoration,—we have already mentioned some instances of signatures found in this position (p. 108).

Of another kind is the inscription found on certain egg-shell cups of the time of Wan-li (1572-1619). These cups, of which we have no specimens unfortunately in our collections, were made by a famous poet-potter who signs himself *Hu yin tao jen*, or 'the Taoist hidden in a pot.' The reference is to a Taoist recluse (what the Japanese know as a *Sennin*) who when disinclined for society was in the habit of retiring into his

gourd-bottle. At the same time, as Dr. Hirth has pointed out, the words form an excellent motto for an artist—the true expression of whose genius we seek in his works.

There is a third class of marks which celebrate the beauty of the vessel on which they are inscribed or, more rarely, refer to the subject of the decoration. A large number of these are illustrated in Franks's *Catalogue of Oriental Porcelain*. We will merely quote as examples 'A gem among precious jewels of rare jade' (PL. B. 16), and, with reference to the decoration, which in this case includes some red fishes, 'Enjoying themselves in the waters' (PL. B. 44). Such rather tame sentences do not teach us much. More suggestive is the inscription we find on a cylindrical vase for holding writing materials: 'Scholarship lofty as the hills and the Great Bear' (PL. B. 15)—a fit motto for the desk of the student.

The Emblems or Devices that so frequently occur in lieu of inscriptions on Chinese porcelain are well illustrated in the British Museum catalogue. They are, however, of little or no value in classifying or dating the pieces on which they are found—they can seldom be connected with any known manufacturer or artist. Such devices are generally symbolic, above all of long life, riches, and honours, the three things desired by a Chinaman, and I suppose that they are more or less vaguely expected to bring to the owner the good luck that they suggest.

Some of these devices remind us of the 'canting' charges and badges of our heraldry. Thus a bat (PL. B. 19 A.) is in Chinese called *fu*, but the same word also means happiness; so again a peach is *shu*, but *shu* means also long life. The characters for happiness (PL. B. 23) and long life (PL. B. 19), we may mention, are of constant appearance, the first usually as a mark on the base, the second as an integral part of the

decoration, on both Chinese and Japanese porcelain. Such interest, then, as can be found in these marks is derived rather from the light they throw upon the working of the Chinese mind than from any information they give us about the porcelain on which they are inscribed.

CHAPTER IX

THE PORCELAIN OF CHINA—(*continued*).

KING-TE-CHEN AND THE PÈRE D'ENTRECOLLES

THERE is nothing more remarkable in the history of the porcelain of China, than the fact of the concentration in one spot, for so many centuries, of an industry for the supply of almost the entire population. So that as regards porcelain, as China stands to the rest of the world, so the town of King-te-chen stands to the rest of China. In fact, to parody a French saying,—'*Qui dit porcelaine dit la Chine, qui dit la Chine dit King-te-chen.*'

Let us then consider the position of this town, above all in relation to the three principal outlets of its trade—I mean the supply of the court at Pekin, the export at Canton, and the general demand of the country. If the reader will consult a good map of China, one that shows the rivers, for these are the real trunk-lines of the commerce of the country, he will soon understand in what a commanding position King-te-chen is placed. It is true that the distance from Pekin is not far short of a thousand miles, following the winding course of the Grand Canal, the Yang-tse river, and the waters of the Po-yang lake; but by this route there is water communication without a break for the whole way.[1] So again the whole journey to

[1] At least such was the case when the Canal was in working order. For some time since, the Grand Canal has only been navigable *when the country is flooded.*

Canton may be made by boat, with the exception of a short portage over the watershed on the borders of the provinces of Kiang-si and Kuang-tung. This was the route taken by Lord Amherst in 1816-17, when returning overland from Pekin to Canton. The journey is well described by Sir John Davis in his *Sketches of China.* As they approached the Po-yang lake, the porcelain shops and depôts in the towns became more and more prominent. These were supplied from the emporium at Jao-chau Fu, the great city near the spot where the river descending from King-te-chen falls into the Po-yang lake. Davis describes the beautiful scenery and the classical associations of the mountainous country surrounding the lake. Proceeding southward they ascended the Kia-kiang river, passing by Nan-chang Fu, a great centre for the commerce of southern China. The river is very shallow in its upper course, but along it passes a constant stream of traffic, by means of a narrow passage scooped out in the shingly bed. The Meiling Pass is crossed by a paved road, partly excavated in the rock and in places cut into steps—a road made some twelve centuries ago by an emperor of the Tang dynasty. After a journey of some thirty miles on horseback another stream was reached, down which they floated to the great Western River and the waters of Canton. It is by this route that nine-tenths of the Chinese porcelain that has reached Europe must have passed. How this porcelain is packed at King-te-chen and forwarded to Canton and to other parts of China is well shown in a series of native drawings exhibited by the side of the cases containing the porcelain in the British Museum.

King-te-chen stands on a small river that flows south-west to fall into the Po-yang lake. At this point, close by the lake, lies, as already mentioned, the city of Jao-chau, the capital of the whole district and the residence of the prefect. King-te-chen, however, the

town of the potter, is not directly subordinate to Jao-chau; to the official mind it is a mere dependency of the sub-prefecture of Fouliang, a small walled town or *hsien* in the immediate neighbourhood. It is in the annals of this *hsien* that the early history of King-te-chen is to be found. We may compare the relative positions of these three Chinese towns with those existing in the eighteenth century between the long straggling villages of Burslem or Stoke and the adjacent town of Newcastle in the first place, and then between the latter and the county town of Stafford. The importance of King-te-chen may, however, be inferred from the fact that the superintendent of the imperial potteries was often at the same time controller of the local customs and viceroy of the surrounding provinces.

King-te-chen, then, was built where the little river flowed out from the barren mountain tract to the east—a region made still more barren by the cutting down of all the wood to provide fuel for the kilns, and whose inhabitants were reputed to be as rude and rugged as their surroundings. It is from the gorges of this rough hilly country that the precious kaolin and petuntse are excavated. These substances are formed locally by the decomposition of the rock of which the hills are composed, a variety of graphic granite with much soda-holding felspar.

In a narrow space, crowded for more than four miles along the river bank between shops, temples, and guardhouses, were built the kilns and the workshops. Towards the south rises a small hill where the tiled roofs of the temples and pavilions are seen half hidden among the trees. This is the Jewel or Guardian Hill which commands the adjacent imperial manufactory. This factory was first established here in the fourteenth century, but since then it has been more than once burned to the ground in times of riot and rebellion. The works were last rebuilt in 1866.

Dr. Bushell has translated an official description of the series of workshops, from the mixing-house to the muffle-furnaces of the enamellers, the whole enclosed by a wall about a mile in circuit. The kilns are no longer within the enclosure as they were in Ming times. The imperial porcelain is now fired in private furnaces scattered through the town.

The French Jesuit missionary to whom, above any one else, is due the credit of first describing to the people of the West the nature of porcelain and how it was made, was living, at the time when the earliest of his famous letters was written (in 1712), at Jao-chau, the capital of the district. The letter is addressed to the *procureur* of the order in Paris, and it would seem that it was before long made public.[1] It was followed in 1722 by a second supplementary letter, dated this time from King-te-chen itself. The Père D'Entrecolles had already been many years in China, and had before this sent home important letters on other branches of Chinese industry. The first letter on porcelain gives proof of long acquaintance with the subject, and it is not impossible that he may already have corresponded with some one in Europe on the same subject. I make this suggestion in connection with the curious coincidence of date between the residence of D'Entrecolles in this district and the first manufacture of porcelain in Saxony.

These letters were naturally read with avidity at this time in Paris and elsewhere. The seed fell on fertile ground, and but one thing was wanting, and that was —some actual specimens of the materials described by the Jesuit father. The indications on this head, given in the letters, were indeed quite insufficient, and would rather tend to put inquirers on a false scent. The writer, for example, had no notion of the real nature

[1] I cannot find the exact date of the first publication of these letters. In the eighteenth century we find them generally quoted from Du Halde.

of kaolin, a substance which in one place he compares to chalk. On the other hand, the technical details so fully given were at that time new. Since then this information has filtered down through many books, so that much of it now appears quite trite.

I will confine myself to a few extracts bearing on points of interest that I may have overlooked elsewhere. These letters are written in the clear, flowing language of the time, and they are delightful reading. After giving some account from the *Annals of Fouliang* of the early history of porcelain, and describing how the industry was gradually concentrated at King-te-chen, the Père D'Entrecolles goes on to say: 'Apart from the pottery that is made all over China, there are a few other provinces, as those of Fukien and Canton, where porcelain is made.' By Canton, in this case, we must understand, I suppose, the province of Kuang-tung, and this is a piece of information of some interest. The attempts made to establish workmen from King-te-chen at Pekin, and again in the neighbourhood of Amoy, from which port so large a commerce was already carried on with Europe, had, he says, wholly failed.

There then follows a description of King-te-chen, with its long streets and its population of more than a million, 'as is commonly reported.' He tells us of a rich Chinese merchant who, after making his fortune in the Indies, had built a magnificent temple to the Queen of Heaven (Kwan-yin, probably). The European piastres he had brought back were well known in the district, although this was not the case in other parts of China. We have a picture of the busy quay and of the three ranges of junks closely packed along the side, and for a background the whirlwinds of flame rising from the three thousand kilns of the city.[1] After

[1] This is a passage made use of by Longfellow in those often-quoted lines beginning—

'A burning town, or seeming so,
Three thousand furnaces that glow,' etc.

praising the admirable police arrangements, he comes to his main subject, the manufacture of porcelain.

The small vessels that bring down the kaolin and the petuntse (in the latter he notes the scattered shiny particles—the mica) from a distance of twenty or thirty leagues are even more numerous than the big junks that take the finished ware down to Jao-chau. The details of manufacture that follow—and to quote them would be only to go once more over the ground covered in a previous chapter—were learned by the Père D'Entrecolles not only from the Christian workmen, but by frequent visits to the works themselves. 'These great laboratories,' he tells us, 'have been for me a kind of Areopagus where I have preached' (I quote the rest in French) '*celui qui a formé le premier homme de limon et des mains duquel nous sortons pour devenir des vases de gloire ou d'ignominie.*'

In describing the preparation of the paste much stress is laid upon the care taken to exclude all extraneous matter, especially that which may have been introduced into the kaolin or petuntse by way of adulteration. The slip for the glaze—for the latter the Chinese term 'oil' is retained—is said to be brought down from the mountains, where it is prepared, in a liquid form. The division of labour in the manufacture is carried so far that a piece of porcelain before completion may pass through the hands of as many as seventy workmen, to each of whom a separate task is assigned.

The important part played by moulding, both as a direct process and subsidiary to throwing on the wheel, is well brought out in this description. I will give a rendering of the passage in which the process of moulding is described, as in an English translation in a recent work there is some apparent confusion. 'When the piece to be copied is of such a nature that it cannot be imitated with the potter's hands on the wheel, a special

kind of clay used only for moulds is impressed upon it [*i.e.* upon the model]. In this way a mould is made of several pieces, each of a considerable size. These pieces are now dried, and when they are required for use they are held near the fire for some time, after which they are filled with the paste to the thickness desirable in the porcelain. The paste is pressed in with the hands and the mould is again placed near the fire. The impressed figure becomes at once detached from the mould by the heat that consumes the moisture that has made it adhere. The different parts of a piece separately moulded are now joined together with a somewhat liquid slip, made of the same material as the porcelain.' Great numbers of these moulds are kept in stock, so that an order from Europe can be quickly executed.

The porcelain painters, he tells us, are just as 'poor beggars' (*gueux*) as the other workmen; and he has evidently a very mean opinion of the art of painting as practised at that time in China: '*Ils ignorent les belles règles de cet Art.*' But such an estimate of Oriental art was universal at that time, when everything was measured from the standpoint of Versailles and the *roi soleil*. 'The work of the painter is divided in the same laboratory among a great number of workmen. It is the sole business of one to trace the coloured circle that we see near the edge of the vessel; another draws the outline of the flowers, which a third fills in. One painter does the mountains and the water, another the birds and the animals. It is the human figure that is the most badly handled. . . . As for the colours on the porcelain, we find all sorts. Little is seen in Europe except that with bright blue on a white ground. I think, however, that our merchants have brought over other kinds.' (The implication is, no doubt, 'since I have left France.' This helps us to fix the date of the introduction of coloured porcelain

into Europe.) 'Some we find with a ground like that of our burning mirrors.' (This is doubtless the *Wu-chin*, or metallic black of the Chinese. This 'mirror-black' is compared to a concave glass blackened behind.) 'Other kinds are wholly red, and among them some are *d'un rouge à l'huile* (*yu-li-hung*), and some of a *rouge soufflé* (*chui-hung*), and covered with little points almost like a miniature. When these two varieties are executed with perfect success—and to do this is difficult enough—they are highly esteemed and are very dear.' The *yu-li-hung*, literally 'red inside the glaze,' may be taken to include the various shades of red derived from copper, of the *grand feu*. The *rouge soufflé* is explained below. The word 'miniature' is used, I think, in the old sense of an illuminated manuscript. 'Finally there are kinds of porcelain with the landscapes on them painted with a mixture of nearly every colour, heightened by a brilliant gilding. These are very beautiful, if no expense is spared. Otherwise the ordinary porcelain of this kind is not to be compared with that which is painted with azure alone. The *Annals of King-te-chen* say that formerly the people used nothing but a white ware.'

The source of the cobalt blue is now discussed and its mode of preparation. The raw material is thrown into the bed of the furnace and there roasted for twenty-four hours. It is then reduced to an impalpable powder in a mortar of biscuit porcelain. The red is made by roasting copperas to a high temperature in a crucible. The white that is used as an enamel in decorating porcelain is prepared from '*un caillou transparent*,' which is also roasted on the floor of the furnace.[1] This *caillou* is mixed with two parts of white lead, and

[1] If we are to understand by this 'transparent pebble' some form of arsenic, for it would seem that arsenic (and not tin as with us) is the base of the opaque white enamels of the Chinese, it is difficult to believe that so volatile a substance could be thus prepared.

this mixture forms a flux—the basis for the colours. There then follows some account of the other colours used, but here it is difficult to follow the good father. He makes some strange statements, which are not all of them cleared up in his supplementary letter of 1722. There are indeed so many amplifications and corrections in the latter that it will be well to combine in our summary the gleanings from the two sources. This second letter is dated from King-te-chen after an interval of ten years, and shows a greater acquaintance with practical details.

Passing over the account of the *flambé* and of some other glazes—to avoid repetition we will defer our remarks till we come to speak of these wares in the next chapter—we hear in the second letter of a valuable material lately discovered which may take the place of kaolin in the composition of the paste. This is described as a chalky-looking body which is largely used by Chinese doctors as a medicine and is called *Hua-shi.*

We will here interrupt the Père D'Entrecolles's account to mention that the *hua-shi* is strictly speaking soapstone or steatite, a silicate of magnesia. But whether magnesia ever enters into the paste or glaze of Chinese porcelain is as yet a disputed question.[1] As far as I know, it has never been found by analysis. The Chinese nomenclature of rocks is necessarily based on their physical aspect alone. Some specimens sent from King-te-chen, which were described on the labels as *hua-shi*, were found at Sèvres to consist of an impure kaolin containing a large quantity of mica.

To return to the father's letters:—In China this *hua-shi* is five times as dear as kaolin. Four parts of it are mixed with one part of petuntse to make the

[1] For the use of steatite in English porcelain see chap. xxii. At Vinovo, in Piedmont, another magnesian mineral has been employed for the paste.

paste. The porcelain made with this material is rare, and much more expensive than any other. Compared to ordinary porcelain, it is as vellum compared with paper; it is, besides, of a lightness that is quite surprising. It is, however, very fragile, and there are great difficulties connected with the firing. For this reason it is sometimes only applied as a coating to the surface of ordinary paste. The *hua-shi* is also used to form an ivory-white slip, with which designs are delicately painted on the surface of the vessel. (We may probably identify this *hua-shi* ware with the *sha t'ai* or 'soft paste,' so called, of Western collectors.)

What we are told by the Jesuit father about the revival of the manufacture of celadon is of great interest. 'I was shown this year,' he says, 'for the first time, a new kind of porcelain which is now in fashion. It is of a colour approaching olive, and is called *Lung-chuan*.' The colour of the glaze is given by the same yellow earth that is used for the *ôr bruni* glaze, and it is often highly crackled. With this statement we may compare the account which he gives in another part of his second letter of the revival of the manufacture of archaic wares. 'The Mandarin of King-te-chen, who honoured me with his friendship, made presents to his protectors at the court of pieces of old porcelain [*sic*] which he has the talent to make himself. I mean that he has found the art of imitating the ancient ware, or at least that of a considerable age, and he employs a number of workmen with this object. The material of these false antiques (Chinese *Ku-tung*) is a yellowish earth brought from the Ma-an mountains. They are very thick—a plate which the Mandarin gave me was ten times the usual weight. The peculiarity of this ware is the glaze made from a yellowish rock, which becomes sea-green on firing.' This change of colour, of course, was the result of a reducing flame, but note the keen observation of the

PLATE XIV. JAPANESE, IMARI WARE, BLUE AND WHITE WITH GOLD

narrator. 'When completed the pieces are boiled in a very greasy soup, and then left for a month or more in the most foul drain that can be found. After this process they may claim to be three or four hundred years old, and to date from the dynasty preceding the Ming. They resemble the real antiques in not giving a ringing note when struck. . . . They have brought me from the *débris* of a large shop a little plate which I value more than the finest porcelain made a thousand years ago. On it is painted a crucifix between the Holy Virgin and St. John. Such pieces were made formerly for Japan, but they have not been in demand for the last sixteen or seventeen years.' These plates, he thinks, were smuggled into that country mixed with other goods, for the use of the native Christians. (*Cf.* the Japanese dish, PL. XIV.)

The account given by the Père D'Entrecolles of the firing of porcelain is so detailed and accurate that it forms an interesting commentary on what we have said in a former chapter on this subject.[1] We have first a description of the man who carries the unbaked ware to the furnace, ranged on two long narrow planks. Balancing these on his shoulders, he threads his way through the narrow streets, for the furnaces, as we have seen, may often be a long way from the factory. He goes on to say, 'the place where the furnaces are presents another scene. In a kind of vestibule in front of the kilns are seen heaps of clay boxes destined to contain the porcelain.' These, of course, are the 'seggars' already described. Each piece of porcelain of any size has its own case. The smaller pieces are packed many together in one seggar. On the bottom of each of these cases is a layer of sand covered with a little powdered kaolin. Each seggar forms the cover to the one below it, and so the whole furnace is filled

[1] In the following summary I have kept to the Père D'Entrecolles's words as far as possible, but with considerable abbreviations.

with these great piles of cases each packed with porcelain. 'By favour of this thick veil the beauty, and if I may so express myself, the complexion of the porcelain is not tanned by the ardour of the fire.' The workman, without touching the fragile raw pieces, rapidly transfers them to the furnace by means of a flexible wooden fork. There are six inches of coarse gravel in the bottom of the furnace, and on this rest the piles of seggars. The middle range is at least seven feet high, the two lowest seggars in each pile being left empty, as is also the one on the top. The middle of the furnace is reserved for the finest porcelain, while near the front are the pieces made with a more fusible paste. The piles of seggars are strengthened by being battened together with clay, but it is the first duty of the fireman to see that there is a free passage of air. The seggars are made in a large village a league from King-te-chen, with a mixture of three kinds of clay.

The furnaces, he tells us, which are now of larger dimensions than formerly, are built over a capacious arched vault, and the hearth or fireplace extends across the whole width of the front of the furnace. It would seem that the process of firing is carried on more rapidly than in former days, and to economise fuel and time the smaller pieces at any rate are taken out a few hours after the extinction of the fire. Sometimes on opening the furnace the whole contents, both seggars and porcelain, are found to be reduced to a half-melted mass as hard as a rock. A change in the weather may alter in a moment the action of the fire, so that a hundred workmen are ruined to one who succeeds and is able to set up a crockery shop.

The ware made in European style finds no favour with the Chinese, and if not accepted by the export merchants remains on the maker's hands.

We are told of the marvellous *tours de force*

executed in porcelain, some years ago, for the heir-apparent, especially of certain open-work lanterns[1] and strange musical instruments. We see from this at how early a date the future emperor (Yung-cheng) showed an interest in porcelain. The Chinese, it is said, succeed above all in grotesques and in figures of animals; the workmen make ducks and tortoises that float on the water. They make, too, many statues of Kwan-yin,—she is represented holding a child in her arms, and in this form is invoked by sterile women who wish for children.

The mandarins, he continues, who appreciate the talents of Europeans for ingenious novelties, have sometimes asked me to procure for them from Europe new and curious designs, so that they may have something singular to present to the emperor.[2] On the other hand, the Christian workmen strongly urged me to do no such thing. For the mandarins do not yield so easily as our merchants when told that a proposed work is impracticable. Many are the *bastinados* given to the men before the official will abandon the design from which he hoped so much profit.

'What becomes of the vast accumulation of pot-sherds, both from the seggars and from the firings?' the writer finally asks. Mixed with lime, they are largely used to form a cement with which the walls of gardens and roads are constructed. They also help to build up the new ground which is reclaimed from the banks of the river. Carried down thence by the floods,

[1] We must here think of the more sober *famille verte* lantern, at South Kensington, rather than of the magnificent specimen of pierced work in the Salting collection, which is of later date.

[2] The unique bowl of Chinese porcelain illustrated in Du Sartel's book, of which the outside is decorated in black and gold in imitation of the Limoges enamel of the renaissance, may have had some such origin. This piece, on which even the initials of the original French artist have been copied, was formerly in the Marquis collection, and is now to be seen in the Grandidier Gallery at the Louvre.

they form a glittering pavement for many miles below the town.

In the detailed account of King-te-chen given by the Jesuit father, we find no mention of the imperial manufactory. Are we to understand that he found no admittance to these workshops? His acquaintance with the higher mandarins makes this unlikely. Nor can we think that these works were closed during the long period of his stay in this district. Another omission that has been pointed out is, I think, more easy of explanation. The Père D'Entrecolles, while giving in great detail the method of preparation of the various colours used in the enamels and glazes, does not say a word about the famous crimson derived from gold, so largely used in the *famille rose* decoration. I cannot but think that this omission is an almost conclusive proof that the *rouge d'or* was not known at that time.[1] The ignorance of the Chinese of chemical processes is dwelt upon, and it is especially mentioned that they are acquainted with neither *aqua fortis* nor *aqua regia*.

[1] We have already alluded to this point, *à propos* of a bowl in the British Museum; see p. 110 note.

CHAPTER X

THE PORCELAIN OF CHINA—(*continued*).

Forms and Uses—Description of the various Wares.

WE have now given a summary sketch of the history and development of the porcelain of China, and have seen something of the processes of manufacture and decoration. Incidentally some account has been given of the principal wares.

We now propose to take up the subject from the side of the paste, the glaze, and the decoration, putting aside the question of age and of historical sequence, and to run through the various classes into which we can divide our material under these heads. We shall follow as far as possible the arrangement adopted in the British Museum, passing from the simpler forms of decoration to the more complex.

First, however, let us say a few words on the forms given to porcelain by the Chinese, and the uses these objects are put to in the country of their origin.[1]

In a first glance at any large collection of Chinese porcelain the bulk of the objects shown appear to fall into four classes: plates and dishes, bowls, vases for flowers, and covered jars.[2] But a closer examination

[1] This branch of the subject is fully worked out in chapter xvii. of Dr. Bushell's work.

[2] When compared with a similar collection of European wares, perhaps the most noticeable difference is the small number of vessels adapted to *pouring*. So much is this the case that when we find a spout or lip on a specimen of Chinese porcelain, the piece takes at once a somewhat exotic aspect, and we are reminded of the Arab *Ibraik*, or the European ewer.

discloses an endless variety of other uses to which porcelain has been applied by the Chinese.

The figures of the gods and the vessels associated with their worship found in the temples and household shrines form by themselves a large division. Here the use of porcelain has from a very early period been encouraged at the expense of bronze and other metals. The ritual vessels used in the imperial worship at Pekin have for ages been made of porcelain. Many of them, as the jars for sacrificial wine, in the form of elephants and rhinoceroses, are copied from the most archaic bronze types; of the same origin is the small libation cup of peculiar shape sometimes seen in our collections. The *Wu-kung*, or five vessels that stand in front of a Buddhist shrine, the incense-burner in the centre, with a candlestick and a vase on either side, are often in China made of porcelain. In Japan these objects are always of metal. A similar set is found in the Taoist temples. The colour of the vessels in ritual use at Pekin varies with the temple in which they are found. Those of the ancestral temple of the emperors are of imperial yellow; those of the altar of heaven of a deep blue (a set of five of this colour, recently brought from Pekin, may be seen at South Kensington). A red glazed ware is connected with the altar of the sun, and white with that of the planet Jupiter.

The objects used in the burning of perfume, the basis doubtless of the highly elaborated apparatus of the Japanese, are usually made of porcelain: these are the incense-burner, the boxes for the perfumes, and the little vase to hold the fire-sticks and the tongs. From these we may pass to the various objects found on the table of the cultured classes, most of them connected with literary pursuits. This is an important division in Chinese collections, as we may judge from the often-quoted manuscript catalogue of Dr. Bushell. The slabs, the water-drippers, and a dozen other small

objects are modelled in a variety of forms. The pen-rest is generally in the shape of a small range of mountains, the highest in the centre (this, by the way, is the ancient form of the Chinese character for 'mountain,' *cf.* PL. VIII.). One of the strangest uses to which porcelain is put by the Chinese is the hat-stand in the form of a hollow sphere supported on a tall, tubular column—the sphere may be filled with either fine charcoal embers or with ice, according to the season.

Pillows, too, are made of porcelain—there is one of the *famille verte* in the Salting collection—but the native collector is warned against those of a certain size and shape, as they may have been stolen from tombs. Tall vases to contain arrows, either cylindrical or square in section, are especially connected with the Manchus. These large vessels may generally be known by their porcelain stands often surrounded by railings.

The vases and bowls are of all sizes and shapes. The biggest ovoid vases with dome-shaped covers may stand in the hall on carved stands; indeed, they are found in similar positions in many of the palaces of India, Persia, and Europe.

The flower vases form an important group, and as in Japan, there is quite a library of illustrated work devoted to them. Both the shape and the decoration of the vase are dependent upon the flowers it is destined to hold, and the arrangement and combination of these flowers is regulated by rival schools of specialists.

The combination of five pieces to form a *garniture de cheminée* is not altogether a European idea. The Chinese have a similar combination—the *Wu-shê*, or set of five; but with them an uncovered vase is preferred for the central piece. For the service of the dinner-table there are many forms: among the cups, plates, and dishes of all shapes and sizes we may select

for mention the dishes with covers indicating by their shapes the contents—fish, birds, or fruit. With these we may compare the similar forms made at one time at Chelsea and elsewhere. There are, again, the compound dishes in the form of flowers, each petal forming a compartment. Finally, we must not forget the tall, cylindrical mugs with crown-like tops, used for cooling drinks in summer, or among the Mongols for their koumis.

There are also certain forms made chiefly, but not exclusively, for the Mohammedan west. Of these, we may mention the bases for the hookah, recognisable by the small, straight spouts at the side to which the flexible smoking-tube is attached; the scent-sprinklers with tall, narrow necks; and the hand-spittoons with globular body and wide-spreading orifice,—these last, by the way, are used in China also.

It is not known to what date we can refer the oldest of the little medicine-flasks (Chinese *yao-ping*) which have in later times been used as snuff-bottles. They seem to have been carried westward in large numbers by the Arab traders, and that from an early date. In shape and size they have varied little.[1] Those found so abundantly in Egypt are generally very small, and are often shaped in imitation of a flattened vase with a square foot: some of them are of a rough-looking celadon, others are covered with a green enamel with white reserves. These are the little bottles that found themselves suddenly so famous towards the beginning of the last century, when they were extracted by the Arabs from Egyptian tombs of early dynasties. Somewhat later they encountered some rivals in the small seals of white Chinese porcelain which were discovered in the Irish bogs!

We can only mention in passing a few of the

[1] It is a curious fact that London chemists now send out their pills in little glass bottles almost identical in shape and size with these Chinese yao-ping.

innumerable subsidiary uses which porcelain is made to serve in China, taking the place of so many other materials, above all of metal:—fittings for furniture, especially for the bedstead, frames for the abacus, or calculating-table, knobs for walking-sticks and hanging scrolls, boxes of various shapes and sizes for cosmetics, buttons, bracelets, and hair-ornaments. Finally, the very fragments, what we should call pot-sherds, of the oldest wares, especially when fine in colour, may be found mounted in gold or silver and worn as personal ornaments.

We started our sketch of Chinese porcelain with a rough historical division into three classes. We are now concerned only with questions of glazes and decoration, and we shall find that the apparently innumerable varieties of Chinese porcelain fall, with few exceptions, under one or other of the following heads:—

1. White, or nearly white, ware, which may be glazed or unglazed.

2. Single-glaze wares, either true monochromes or, if of more than one colour, the variety of colour arising from changes brought about in the single glaze during the firing.

3. Porcelain decorated under the glaze. Chiefly blue, less often blue combined with red, or red alone.

4. The decoration given by painting with glazes of more than one colour, probably always on the biscuit. We may call this the class of polychrome glazes.

5. The decoration painted over the glaze with enamels more fusible than the glaze on which they rest.

PLAIN WHITE WARE.—The white ware made at Ting-chou, a town in the province of Chihli, to the south-west of Pekin, as early as Sung times, served as a type for all the many kinds of similar ware made in later days at King-te-chen. We have seen (p. 68)

that there was a variety, of the earlier ware, of creamy tint covered with a soft glaze containing lead; this is the *Tu-ting*, of which there are several specimens in the British Museum. It was, however, the pure white variety, the *Feng-ting*, that was afterwards copied. The colour of this ware, when not a pure white, tends to blue and greenish tints, and it is often finely crackled. This ware, especially the thin, translucent, egg-shell variety of the time of Yung-lo (1402-25), is much sought after by Chinese collectors.

But the greater part of the plain white Chinese porcelain in European collections was not made either at Ting-chou or at King-te-chen. It is rather to be traced to the only other important centre for the manufacture of porcelain that survives in China. This is the district of Te-hua (Tek-kwa in the local dialect), in the province of Fukien. This province had been famed in Sung times for its tea-bowls covered with a dark glaze, and we must remember that somewhere along its rocky, indented coast was situated the port of Zaitun, so famous in early days for its Arab trade. In later times the roadstead of Amoy came to rival Canton as a port of call for our ships; it is mentioned in this connection by the Père D'Entrecolles, and from it most of the *blanc de Chine* which at that time reached Europe was probably exported. For it was this Fukien ware rather than the white Ting porcelain that was imported into Europe from the latter half of the seventeenth century, to be copied in the earlier days of Saint-Cloud and Bow. In Spain it was a great favourite from perhaps an earlier date, and when the Buen Retiro works were started this ware was taken as a model.

This white ware does not seem to have been made at Te-hua before the Ming period, but it soon established itself as the *pai-tsu*—the white ware *par excellence* of China. It is distinguished by the creamy white of its paste and glaze—that is to say, the colour tends

1

2

PLATE XV. 1—CHINESE, PLAIN WHITE WARE

2—CHINESE, BLUE AND WHITE WARE

towards a warm, yellowish tint rather than towards the cold, pure white or bluish tone of most of the King-te-chen and still more of the Japanese wares. The satiny glaze appears to melt into the subjacent ground in a way that reminds us of some of the European soft paste porcelains.

It is the moulded ware that is most characteristic of the 'Kien yao'—vases with dragons in full relief creeping round the neck, incense-burners in many complicated forms, figures of Kwan-yin (whom we should *not* call the 'Goddess of Mercy') in many incarnations; or again, Ta-mo (so well known in Japan as Daruma), the *Bodhi-dharma* who brought the faith to China, with overhanging brows and abstracted, solemn gaze. Among animals, the favourite is the lion, the so-called 'dog of Fo,' sporting with an open-work ball.

Many of these figures are very ably executed; they stand firm and erect; and the draperies, though here the mannerisms of the 'calligraphic' school of painting may be recognised, fall in simple folds from the shoulders. The prevalence of Buddhist types (for the Taoist divinities are here less frequently represented) may be connected with the exceptional predominance of that religion in Fukien, a province somewhat remote from the rest of China, whose inhabitants speak a dialect very different from the standard Chinese.

Some very creditable work seems to be still turned out from the Te-kua district, to judge by the ware that finds its way to the shops of Fuchow. Some enamelled ware appears to have been at one time made in this district. In the British Museum are some small pieces decorated with five colours (among them a blue enamel *over* the glaze), which on the ground of the nature of the glaze and the paste have been classed as Fukien ware; while from the style of the decoration they would appear to date from the early eighteenth century.

Much white porcelain, both the Feng-ting and the Fukien, was imported into Europe from the end of the seventeenth century, and it forms an important element in old collections. Some of this white ware, at a later time, was decorated with colours in England and elsewhere, giving rise to a class of porcelain that has caused some confusion to collectors.

In China, white porcelain is used in time of mourning, at least that is the case with that supplied to the imperial court.

Unglazed porcelain is comparatively rare in China, but figures of gods or of animals are sometimes found in biscuit, and the little boxes in which crickets are kept for fighting are generally of unglazed ware. Again, where, as in the class of polychrome glazes, the glaze is applied with a brush, some part may be left unglazed; and this practice has survived in the case of the lions and kilins of the *famille verte*, where we often find the biscuit exposed in parts of the face.

CELADON WARE.—As the white ware of King-te-chen—the *Ting*—has got its name from the town of Ting-chou where it was first made, so the many varieties of celadon[1] porcelain are connected in the Chinese mind with the town of Lung-chuan, near the southern boundary of the province of Chekiang. We have already given some space to this ware, so important from the *cultur-historisch* point of view, and we shall have to return to it again when we come to investigate the routes by which the porcelain of China passed in the Middle Ages to other countries. Here we will merely call attention to the later revival of the celadon glazes mentioned in a passage we have quoted from the letters of the Jesuit father. But the highly finished porcelain, with a fine white paste covered with a pale greyish-green glaze of uniform thickness and shade, differs much from the old vases with 'red mouth

[1] The word is used in a restricted sense as explained above.

and foot.' There is a remarkably fine specimen in the Wallace collection at Hertford House with chased metal mountings of the time of Louis XV., and other pieces similarly mounted in the Jones collection.

CRACKLE WARE.—It would only create confusion to make a special class for the many kinds of ware covered with a crackled glaze. It will be remembered that we first came across glazes of this kind when describing the Ko yao, the 'ware of the Elder Brother,' and a large class of porcelain with white to yellowish grey glaze, always more or less crackled, is still commonly known as Ko yao in China, so that 'Crackle ware' and 'Ko yao' are in a measure equivalent terms. Such crackling may vary from a division of the surface into large fissures several inches in length, to the finest reticulation of minute lines hardly visible without a glass. The first the Chinese compare to the cracks of ice, and I think that it is to a variety of crackle with long spindle-shaped divisions that they give the name of 'crab's claw.' The finer crackle they know as 'fish-roe'—this is the *truité* of the French. Certain glazes, as the turquoise and the purple of the *demi grand feu*, are always finely crackled. In other cases the crackling, which is caused, as we have already said (p. 32), by the glaze after solidification contracting more than the subjacent paste, may be produced or modified at the will of the potter by adding various substances to the glaze. A rock that has been identified with steatite has been often mentioned in this connection, and the increase in the shrinkage of the glaze attributed to the magnesia contained in it. Probably, however, a change in the proportion of the silica to the alumina may be enough to bring about a crackled glaze. The following extract from the letters of the Père D'Entrecolles throws some light on this point. He tells us that when the glaze is made of *cailloux blancs* (probably little else than felspar), without other mixture, we obtain the

porcelain called *Sui-ki*, or 'shattered ware' (this is the general Chinese term for crackle), 'marbled all over with an infinity of veins so as to look like a piece of broken porcelain with the pieces remaining in their places.' The glaze, we are told, is of a cindery white. We have here a description of the Ko yao, which, however, seems to have been little known in Europe at that time. To this class belong the vases with yellowish grey ground and crackles of medium size. They are often provided with mask handles and detached rings. These handles and rings, as well as some broad bands round the neck, are covered, in imitation of bronze, with a dark, roughened glaze. Another variety of this Ko yao is decorated with scattered patches of white slip, laid on apparently over the crackled glazed surface. On this slip is painted the design in cobalt blue under what is apparently a second glaze. A frequent *motif* on this ware is found in a series of horses in the strangest of positions. These probably represent the eight famous steeds of the old emperor Mu-wang. Both these classes of Ko yao are in great favour in China and Japan as flower vases. The shapes and decorations are more or less reminiscent of the old bronzes. It would seem that ware of this kind is still manufactured at King-te-chen and perhaps somewhere in the north of China also.

The brown glazes form a very distinct class. The well-known colour has many names: in French *fond laque*; in Chinese *tzu-kin*, or 'burnished gold.' It is also known as 'dead leaf,' but the average tint is perhaps best described as *café au lait*. The Père D'Entrecolles, in mentioning the *tzu-kin*, the colour of which he says is given by a 'common yellow earth,' states that it was a recent invention in his time. He is perhaps referring to some special tint, for the colour was well known in Ming days. We have already spoken of the possible relation of this colour to the

1

2

PLATE XVI. CHINESE, WHITE SLIP ON BROWN GROUND

copper lustre of the fourteenth century Persian fayence. At a later time in the seventeenth century it was a favourite colour with the Persians, especially when decorated with delicate designs of flowers and ferns in a thin white slip (PL. XVI.). It was largely exported at that time from China and cleverly imitated in the fayence and frit-pastes of Persia. Both the original Chinese ware and the Persian imitation are well represented at South Kensington by specimens brought from the latter country. This brown glaze is seldom found alone. It is a colour that stands well the full heat of the furnace, and it may be combined with a blue and white decoration or with bands of celadon. It forms the ground-colour of the so-called Batavian ware, and at one time a brown ring was by our ancestors held to be essential on the rim of a fine plate or bowl of blue and white porcelain.

TURQUOISE AND PURPLE GLAZES.—As for the twin colours of the *demi grand feu* (the yellow in this group is quite subordinate), the so-called turquoise (including the peacock green and kingfisher blue of the Chinese) and the aubergine purple, the latter is seldom found alone. Both colours are distinguished by a very fine-grained crackle. Of the blue, when used as a single-glaze colour, we have spoken when describing the glazes of the *demi grand feu*.

YELLOW MONOCHROME GLAZES.—There are many shades of yellow found on Chinese porcelain: the imperial yellow of full yolk-of-egg tint, the lemon yellow, the greenish 'eel-skin,' and the 'boiled chestnut.' Only the first, the imperial yellow, is of importance as a monochrome glaze. This is the colour first used in the time of the Ming emperor Hung-chi (1487-1505), and his name is sometimes found on bowls and plates ranging in colour from a bright mustard to a boiled chestnut tint. There are some good specimens in the British Museum, and a curious piece, with a Persian

inscription, at South Kensington, has already been mentioned when speaking of the reign of Hung-chi.

COBALT BLUE MONOCHROME GLAZES.—We may distinguish three varieties of blue derived from cobalt, but the full sapphire of the blue and white ware is not found as a monochrome glaze:—

1. The *Clair de lune.* The term *yueh-pai*, or moon-white, was applied to more than one class of Sung porcelain, but above all to the Ju yao. In later times, when these primitive wares were copied, the colour was given by a minute quantity of cobalt, but it is very doubtful whether that pigment was known in early Sung days. The *clair de lune* glazes of Nien were considered second in merit only to the copper reds of that great viceroy. The uncrackled glazes of this class are often classed as celadon.

2. The Mazarin blue, known also as *bleu fouetté* or powder-blue.[1] This glaze is blown on to the surface of the raw paste, in the manner described on page 30. It sometimes covers the whole surface, and is then generally decorated with floral designs in gold, but more often it forms the ground for vases and plates with large white reserves on which designs in enamel colours are painted.

3. The *Gros Bleu*, in the form of large plates and vases, was a great favourite with the Arabs and other Mohammedan races. This ware, too, was often covered with a decoration of gold. There is a magnificent plate of this class in the British Museum, and at South Kensington, in the India Museum, a tall, dark-blue vase which we have already mentioned. From Persia come many specimens of this deep blue ware, of a greyish or even slaty tint, decorated, like the *fond laque*, with flowers in a white slip.

[1] We have far too often to fall back on names of French origin. Our colour-vocabulary in the case of the enamels and glazes of porcelain is a sadly poor one.

BLACK GLAZES.—Very near to this last class of blue glazes we may place the 'metallic black,' the *wu-chin* of the Chinese. According to the Père D'Entrecolles, this mirror-black is prepared by mixing with a glaze containing much lime and some of the same ochry earth that gives the colour to the brown glazes, a sufficient quantity of cobalt of poor quality. In this case no second glaze is required, and the vessel is fired in the *demi grand feu*, *i.e.* in the front of the furnace. Other blacks are painted on and covered with a second glaze. The large spherical vases with tall tubular necks show little trace generally of the gold with which the black glaze was originally decorated.

GREEN GLAZES.—The peculiar tint of green, in varied intensity, that distinguishes the *famille verte* is seldom found as a single glaze; and of the green Lang yao, made by Lang Ting-tso in the early part of the reign of Kang-he, it is doubtful whether we have any representatives in our European collections. This glaze is said to be somewhat in the style of his more famous *sang de bœuf*.

The brilliant cucumber or apple-green of Ming times is shown in a pair of exquisite little bowls in the British Museum. Over the green glaze there is a scroll pattern of gold, and on the inside a blue decoration under the glaze. Almost identical with these is the bowl set in a silver-gilt mounting of English make dating from about the year 1540, now preserved in the Gold Room (PL. v.). Of a similar but somewhat deeper tint of green are the rare crackle vases, generally of small size, of which there are specimens in the British Museum and in the Salting collection.[1]

OLIVE AND BRONZE GLAZES.—The monochrome

[1] In the case of some monochrome ware the colour may have been painted on the raw paste or on the biscuit, and a colourless glaze then added; or again, as in the case of the coral red mentioned below, it may be painted like an enamel *over* the glaze.

glazes of various shades of olive and bronze are for the most part produced by a *soufflé* process, in which on a base of one colour a second colour is sprinkled. Thus to form the 'tea-dust' a green glaze is blown over a reddish ground derived from iron. The wonderful bronze glazes, of which there are good specimens in the British Museum and in the Salting collection, are produced in a similar way. But some of these (and the same may be said of the 'iron rusts') partake rather of the nature of the more elaborated glazes of the *flambé* class.

RED AND FLAMBÉ GLAZES (PL. XVII.).—We have left the red glazes to the last, both from the complicated nature of the class and because one variety, the *sang de bœuf*, forms a transition to the 'splashed' or *flambé* division. A red glaze or enamel, we have seen, can be produced from three metals,—from gold, from copper, and from iron. With the *Rose d'or*, which may be classed as a monochrome enamel, when used to cover the backs of plates and bowls, we are not concerned here—it is not properly a glaze in our sense of the word. The red derived from the sesqui-oxide of iron was only successfully applied as a monochrome when, at a late period, the difficulties attending its use were overcome by combining the pigment with an alkaline flux. This is the *Mo-hung* or 'painted red' of the muffle-stove, which was painted over the already glazed ware, and therefore not properly itself a glaze. In fine specimens it approaches to a vermilion colour; it is the jujube red of the Chinese. It is with this colour, laid upon the elaborately modelled paste, that the carved cinnabar lacquer is so wonderfully imitated.[1]

But it is the red derived from copper that presents the most points of interest. Indeed we now enter upon a series of glazes, beginning with the pure deep red of

[1] It must, however, be remembered that this carved lacquer itself is sometimes applied as a coating to porcelain in China.

1

2

3

PLATE XVII. CHINESE

the *sang de bœuf*, and then passing over the line to the long series of variegated or 'transmutation'[1] glazes that have more than any others fascinated the modern amateurs of ceramic problems. We have already seen how these magic effects are produced by carefully modulating the passage of the oxidising currents through an otherwise smoky and reducing atmosphere in the furnace (p. 42).

The typical *sang de bœuf*, or the 'red of the sacrifice,' as the Chinese call it, was that made under the *régime* of Lang Ting-tso a forerunner of the three great directors of the imperial manufactory at King-te-chen, and in later times it was always the aim of the potter to imitate his work—the Lang yao—even in trifling details. According to the Père D'Entrecolles, to obtain this red the Chinese made use of a finely granulated copper which they obtained from the silver refiners, and which therefore probably contained silver. Some other very remarkable substances, he tells us, entered into the composition, but of these it is the less necessary to speak, as he confesses that great secrecy was maintained on the subject.

In looking carefully *into* a glaze of this kind, the deep colouring-matter is seen suspended in a more or less greenish or yellowish transparent matrix, in the form of streaks and clots of a nearly opaque material.[2] The hue, in general effect, varies from a deep blood-red to various shades of orange and brown, but intimately mixed with the red, certain bluish streaks are sometimes to be seen in one part or another of the surface. The colours should stop evenly at the rim and at the base, which parts, if this is achieved, are covered

[1] It would be convenient to have a name to include the whole series—the *flambé*, the *sang de bœuf*, the lavender Yuan, and perhaps also the peach-bloom and the 'robin's egg.' I would propose to include *all these classes* under the head of *transmutation glazes*.

[2] A French writer compares the effect to the 'palette d'un coloriste montrée sous un morceau de glace' (E. de Goncourt, *La Maison d'un Artiste*).

with a transparent glaze of pale greenish or yellowish tint.

We have already seen that much depends upon the period of the firing at which the glaze becomes liquid or soft, and upon the exact degree of fluidity attained by it. Should the oxidising currents be allowed further play at the critical period of the firing, the blue and greenish stains and splashes will become more predominant, and we may either pass over to the *flambé* or 'transmutation' glazes, or finally the glaze may become almost white and transparent.

But we must hark back to the wares of the Sung period, to the Chün yao, to find the origin of these variegated glazes. These early Sung glazes were copied in the time of Yung-cheng, and if we are to believe the contemporary list, already quoted, of the objects copied, they were of a very complicated nature. In this class of *flambé* ware we must include also a large part of the so-called *Yuan tsu* (see p. 77), a heavy kaolinic stoneware, certainly not all dating from the Yuan or Mongol period—a ware, indeed, still common in the north of China. This ware is roughly covered with a glaze of predominant lavender tint, speckled with red, and thus approaches to the 'robin's egg' glaze of the American collector, though this latter is found on a finer porcelain of later times.

Another name which has been used to include many of these variegated glazes is *Yao-pien* or 'furnace-transmutation.' This last word very well expresses the process by which the colour is developed, but it must be remembered that this is not exactly the meaning that the word *yao-pien* conveys to the Chinese mind.[1] With this term the happy accidents of the furnace were linked by the Père D'Entrecolles: he tells us that it was proposed to make a sacrificial red, but that the vase came

[1] There were many kinds of 'furnace transmutations' known to the Chinese, mostly of a miraculous nature (see Bushell, p. 219).

from the furnace like a kind of agate. Dr. Bushell thinks that most of the fine pieces of this ware date from the time of Yung-cheng and Kien-lung (1722-1795), and he is of opinion that they were prepared by a *soufflé* process rather than by any 'academic transformation' of a copper-red glaze. 'The piece,' he says, 'coated with a greyish crackle glaze or with a ferruginous enamel of yellowish-brown tone, has the transmutation glaze applied at the same time as a kind of overcoat. It is put on with the brush in various ways, in thick dashes not completely covering the surface of the piece, or flecked as with the point of the brush in a rain of drops. The piece is finally fired in a reducing atmosphere, and the air, let in at the critical moment when the materials are fully fused, imparts atoms of oxygen to the copper and speckles the red base with points of green and turquoise blue' (*Oriental Ceramic Art*, pp. 516-17). Some practical experiments lately made in France would tend to show that the critical moment should be placed a little earlier, *before* the glaze is completely fused, for after that point is reached the surrounding atmosphere has little influence upon the metallic oxides in the glaze. It is to this capricious action of the furnace gases that are due those wonderful effects that may be observed in looking *into* these glazes, curdled masses of strange shapes and varying colour suspended in a more or less transparent medium, and assuming at times those textures resembling animal tissues which are graphically described by the Chinese as pig's liver or mule's lungs. It must be understood that into many of the more modern and *apprêtés* specimens of *flambé* ware the sources of the violent contrasts of colour are found not only in the oxides of copper and iron, but in those of cobalt and manganese also.

But in contrast to 'the stern delights' of these flamboyant wares there is another kind of glaze, chemically closely allied, for it is also of transmutation copper

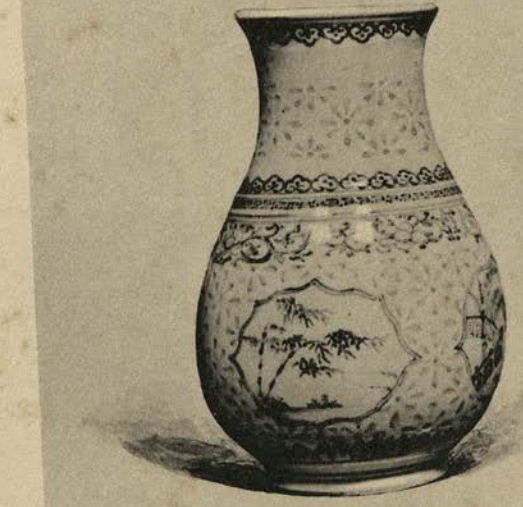
origin, of which the associations are of another kind. This is the peach-bloom, the 'apple-red and green,' or again the 'kidney-bean' glaze of the Chinese. Although claiming an origin from Ming times, this glaze is always associated with the great viceroy Tsang Ying-hsuan. The little vases and water-vessels of a pale pinkish red, more or less mottled and varying in intensity, are highly prized by Chinese collectors.

DECORATION WITH SLIP.—There is a class of ware which might perhaps claim a separate division for itself—I mean that decorated with an *engobe* or slip. We have already mentioned the most important cases where this *engobe* is applied to the surface of single-glazed wares: these are, in the first place, the *fond laque* (PL. XVI.), and in a less degree certain blue and even white wares. The slip, of a cream-like consistency, is as a rule painted on with a brush over the glaze, generally, I think, after a preliminary firing.[1] This *engobe* may then itself be decorated with colours, as we have seen in the case of the Ko yao, and the whole surface probably then covered with a second glaze.[2] Sometimes when the ground itself is nearly white we get an effect like the *bianco sopra bianco* of Italian majolica. This carefully prepared and finely ground *engobe* contains, in some cases at least, the same materials as those employed in the preparation of the Sha-tai or 'sand-bodied' porcelain.

PIERCED OR OPEN-WORK DECORATION (PL. XVIII. 1).—We may here find place for another kind of decoration, one much admired in Europe in the eighteenth century.

[1] When applied to *the whole surface*, a similar slip forms the ground on which the decoration is painted in the case of many kinds of European and Saracenic fayence, but in such ware the slip is used to conceal a more or less coarse and coloured paste.

[2] It may, however, be noticed, on close examination, that the crackles do not seem to be developed in the lower glaze covered by the slip. This would rather point to both the first and the second coats of glaze, as well as the intermediate slip, being all applied before the firing.



1

2

PLATE XVIII. 1—CHINESE, PIERCED WARE, BLUE AND WHITE
2—CHINESE, BLUE AND WHITE WARE

This is obtained by piercing the paste so as to form an open-work design, generally some simple diapered or key pattern, but sometimes flowers or figures of cranes. The little apertures or windows thus formed may be filled in by the glaze (if this is sufficiently viscous to stretch across them) in the simple process of dipping. In this case the glaze takes in part the place of the paste, and indeed in the closely allied 'Gombroon' ware of Persia it is the thick, viscous glaze rather than the friable sandy paste that holds the vessel together. It is the plain white ware to which this decoration is generally applied in China. There is one class where this pierced work is associated with groups of little figures, in biscuit, in high or full relief—as is well illustrated by a series of small cups in the Salting collection, some of which bear traces of gilding and colours.

The term 'rice-grain' was originally applied to the open-work diapers filled in with glaze. As a whole this kind of work may be referred to the later part of the reign of Kien-lung, and especially to that of his successor, Kia-king (1795-1820), so that it is not unlikely that the Persian frit-ware, some of which is of earlier date, may have served as a model.

BLUE AND WHITE WARE.—This is, on the whole, the most important as well as the best defined class of Chinese porcelain. The Chinese name, *Ching hua pai ti* (literally 'blue flowers white ground'), defines its nature well enough.

We have no information as to the origin and development of blue and white porcelain in China, nor indeed do I know of any collection where an attempt has been made to classify the vast material. We must here content ourselves with a few notes which at best may indicate the ground on which such a classification should be made. We have seen (p. 75) that

there is at least some presumptive evidence that the Chinese may have derived their knowledge of the use of cobalt (as a material to decorate the ground of their porcelain) from Western Asia, at a time when both China and Persia were governed by one family of Mongol khans. For we know now that in Syria or in Persia, in the twelfth or early in the thirteenth century, a rough but artistic ware was painted with a hasty decoration of cobalt blue and covered with a thick alkaline glaze; while in China, at that time, we have no evidence for the existence of any porcelain other than monochrome.

It is possible that the earliest Chinese type of the under-glaze blue may be found in certain thick brownish crackle ware, decorated under the glaze, in blue, with a few strokes of the brush. Plates and dishes of this kind have been found in Borneo, associated with early types of celadon.[1] A similar ware, not necessarily of great antiquity, is often found in common use in the north of China and, I think, in Korea, and with it we may perhaps associate the greyish-yellow Ko yao decorated with patches of blue and white slip.

It is very likely that there would be a strong opposition on the part of the Chinese literati to such a novel and exotic mode of decoration, but that such opposition would be less felt in the case of ware made for exportation, or it may be for use among the less conservative Mongols. We have an instance of a similar feeling in the protest that we know was made some two or three hundred years later against the application of coloured enamels to the surface of porcelain.

Of the thousands of specimens of blue and white porcelain in our collections there is probably no single piece for which we can claim a date earlier than the fifteenth century. We can, however, distinguish two

[1] Not that we need claim any great age for these plates, but it is in such places that old types (as *e.g.* the celadon) are likely to continue in fashion.

PLATE XIX. CHINESE BLUE AND WHITE WARE

types among the examples, which for the reasons given on page 83 we may safely assign to the Ming period. The first is distinguished by a pure but pale blue, and the design (generally somewhat sparingly applied) is carefully drawn with a fine brush. This, it would seem, was the ware imitated by the Japanese at the princely kilns of Mikawaji. The other type is distinguished by the depth and brilliancy of its colour, the true sapphire tint, differing from the later blue of the eighteenth century, in which there is always a purplish tendency. There are some good specimens of this type in the British Museum, but we will take as our standard a jar at South Kensington about twelve inches in height (PL. XIX.). The remarkable thickness of the paste in this vase shown in the neck, which has at some time been cut down, the marks of the junction of the moulded pieces of which it was built up, the slight patina developed in the surface of the glaze, are all signs that point to an early origin. But what is above all noticeable is the jewel-like brilliancy of the blue pigment with which the decoration—a design of *kilin* sporting under pine-trees—is painted.

When we come to the reign of Wan-li (1572-1619), to which time we may assign the beginning of the direct exportation to Europe of Chinese porcelain, a period of decline has already set in. The rare pieces of blue and white so prized in Elizabethan and early Stuart days are in no way remarkable either in their execution or in their decoration.

We come now to an important class of blue and white ware which looms out large in many collections. I mean the big plates and jars with roughly executed designs often showing a Persian influence. The blue is never pure—indeed it is often little better than a slaty grey, and sometimes almost black. Most of what the dealers now know as 'Ming porcelain' may

be included in this class. To understand the source of this porcelain we must refer the reader to what we shall have to say in Chapter XIII. about the trade of China with Persia in the time of Shah Abbas and with the north of India, during the reigns of the great Mogul rulers of the seventeenth century. The increasing demand from these countries coincided with a period of decline in China, for the period between the death of Wan-li in 1620 and the revival of the manufacture at King-te-chen towards the end of that century, is almost a blank in the history of Chinese porcelain. But the export trade that had sprung up at the end of the sixteenth century was actively carried on in spite of the political troubles, and at no other time was the nature of the ware produced so largely influenced by the foreign demand. But this demand was at first chiefly for the Mohammedan East, and what reached Europe was mostly the result of re-exportation from India and from the Persian Gulf.[1] This picturesque and decorative ware is well represented at South Kensington by specimens obtained in Persia, and many fine pieces have lately been brought from India. Of this class of blue and white ware we have already spoken in a former chapter (see p. 84).

In Egypt, again, blue and white porcelain was greatly appreciated both for decorative purposes and for common use. Large plates and dishes painted with a scale-like pattern, formed of petals of flowers, are still to be found in the old Arab houses of Cairo.

Already by the beginning of the seventeenth century plates and bowls of the Sinico-Persian type must have reached Holland in large quantities, and we find them frequently introduced into their pictures by the still-life painters of the time. I will only give two examples:

[1] We may perhaps connect the first steady export of 'blue and white' direct to Europe with the establishment of the Dutch at Nagasaki, where they probably employed Chinese workmen.

(1) A large still-life at Dresden by Frans Snyders (1579-1657), where as many as eight plates and bowls, mostly roughly decorated with a greyish cobalt *sous couverte*, are introduced; (2) a small picture in the Louvre by William Kalff (1621-1693). Here we see a large 'ginger-jar' with deep blue ground and white reserves. The porcelain introduced by the Dutch painters is without exception of the blue and white class, and in the earlier works the slaty blue tints are the most common.

But European influence must now and then have made itself felt in China before this time, to judge by some large jars at Dresden decorated with arabesques of unmistakable renaissance type. One of these has been fitted with a lid of Delft ware, made to match the other covers of Chinese origin, and this Dutch-made lid cannot be dated later than the first half of the seventeenth century.[1]

But it is to the next age that the bulk of the vast collection of blue and white brought together at Dresden by Augustus the Strong belongs. The *lange Lijzen*, the famous dragon-vases, the large fish-bowls, and the endless series of smaller objects collected by his agents from every side, have made this royal collection a place of pilgrimage for all china maniacs since his day. Not that the general average of the blue and white ware is very high. We find here for the first time specimens of the famous 'hawthorn ginger-jars' so dear to later collectors of 'Nankin china.' Of course this porcelain did not come from Nankin, the jars were never used for ginger, and the decoration was not derived from the hawthorn—a flower unknown in Chinese art. But it is in these jars that the modern connoisseur, both in England and America, has found

[1] So what is by far the most successful imitation of Chinese 'blue and white' ever produced in Europe was made by the Dutch, in the enamelled fayence of Delft, about the middle of the century.

the completest expression and highest triumph of the art of the Far East. No words are too strong to express his enthusiasm. We are especially told to look for a certain 'palpitating quality' in the blue ground. We hear from Dr. Bushell that these 'hawthorn jars' are in China especially associated with the New Year; filled with various objects they are then given as presents. The decoration of prunus flowers (a species allied to our blackthorn) is relieved against a background of ice, and it is the rendering of this crackled ice in varying shades of blue that gives the special *cachet* to the ware.[1]

There is a curious variety of blue and white in which the outline of the design is filled up by a hatching of cross-lines as in an engraving. The prototype of this kind of decoration probably dates from Ming times, and it may possibly be derived from some kind of textile.

ENAMEL COLOURS OVER THE GLAZE.—We have already attempted to follow the stages by which the application of enamel colours over the glaze found its way into general use. We saw that before the introduction of fusible enamels melting at the gentle heat of the muffle-stove, somewhat similar effects were obtained by painting with certain colours upon the already fired body or paste—on a biscuit ground, in fact. The coloured slip used in this way, differing in no respect from a true glaze, was then subjected to a fire of medium intensity, that is to say, it was exposed to the *demi grand feu* of the kiln.

I think that the obscure problem of the nature of the coloured ware so minutely described by Chinese

[1] In Japanese art also we find the prunus as a symbol of the approaching spring, but there the branches are covered with freshly fallen snow. The contrast of the weather in early spring, in China and Japan respectively, could not be better expressed—by ice in the one case, by soft thawing snow in the other.

writers and ascribed by them to early Ming times, and the relation of this ware to the first forms of the *famille verte* can only find its solution by allowing a wider play to the use of painting on biscuit and subsequent refiring, and that there may probably have existed intermediate stages between the *demi grand feu* and the fully developed muffle-stove. It is indeed possible that the same pieces may have successively been exposed to both these fires.[1]

The curious bowl, of very archaic aspect, lately added to the Salting collection (see note, p. 89), illustrates well the difficulties in accepting as final a decision as to date based upon the nature of the enamel. This bowl bears the nien-hao of Ching-te (1505-21), and may well date from that time, but among the enamel colours over the glaze we find a cobalt blue (of a poor lavender tint indeed); we are told, however, that the use of cobalt as an enamel colour was unknown before the time of Kang-he.[2]

Of the many schemes and varieties of decoration that crop up in the course of the eighteenth century as a consequence of the increased palette at the command of the enameller and of the miscellaneous demand for foreign countries, we have already said something. Many important types must remain unmentioned, and some are indeed scarcely represented in our home collections. Of this I will give, in conclusion, a striking instance. In the whole of the great collection at Dresden, now so admirably arranged by Dr. Zimmermann, there is perhaps nothing more striking than the circular stand covered with a trophy of large vases,

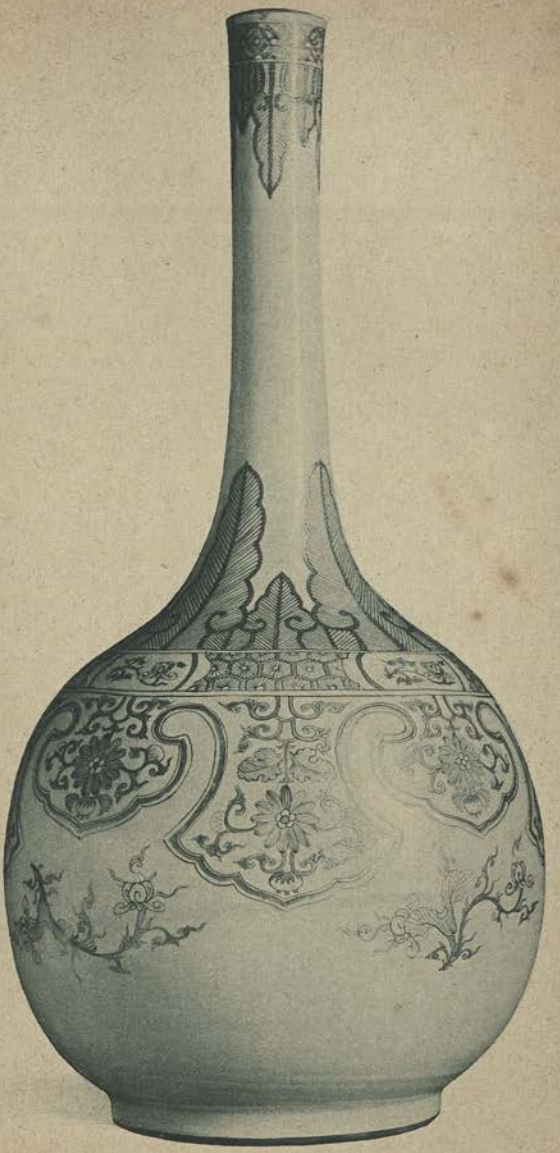
[1] Dr. Zimmermann, the curator of the Dresden Museum, regards the black division of the *famille verte* as a product of the *demi grand feu*, *i.e.* he holds that the black and green was painted on the biscuit. But this is certainly not the case with the fully developed examples. I may say that this class is only represented at Dresden by some small roughly painted plates.

[2] We find it so used, however, upon the Japanese 'Kakiyemon' porcelain, some of which cannot be much later than the middle of the seventeenth century.

the decoration of which, though bold in general effect, is entirely built up by fine lines of iron-red helped out by a little gold. These vases, from their fine technique, I should assign to the end of the reign of Kang-he, or possibly to that of Yung-cheng (1722-35). It is a curious fact that by these parallel lines of iron-red an effect is produced at a distance very similar to that obtained by a wash of the *rouge d'or*. Possibly the aim was to imitate that colour. I have seen a similar effect produced by red hatching on some English ware of the eighteenth century. I do not think that this porcelain was made for the Persian market, as has been asserted, for in that case we should find specimens of it in the South Kensington collection.[1] There is, I think, only one example of this ware in the British Museum, and in the Salting collection only a pair of insignificant cups and saucers. On the other hand, in the Dresden collection, whole classes even of eighteenth century wares are unrepresented. I mention these facts to accentuate the vast field covered by Chinese porcelain. It must be borne in mind that the Chinese manufactured for the whole civilised world, and that the taste and fashion in each country influenced, though often very indirectly, and in a way not always to be recognised at first sight, the forms and the decoration of the objects exported to it. This influence, making for variety and change, has been in constant conflict with, and has counteracted, the native conservative habit. It is an influence that has probably made itself felt from very early days, but it culminated in the eighteenth century. Indeed the rapid decline of Chinese porcelain that set in before the end of that century was in no small degree promoted by the unintelligent demand from Western countries at that time.

We shall later on have to look upon this question

[1] Since writing this I have discovered a tall-necked bottle of this ware at South Kensington, which is stated to have been purchased in Persia (PL. XX.).



Chinese. Design in red and gold.

from a reversed point of view, and we shall have to notice how the fictile wares of other countries were influenced, and finally in part replaced by the products of the kilns of King-te-chen. For in any general history of porcelain this influence of the East upon the West, together with the return current from West to East, is the central question. By bearing in mind these mutual influences a simplicity and unity are given to this history which we might look for in vain in that of any other art of equal importance.

How the porcelain of King-tê-chen found its way at first to the surrounding minor states—to Korea, to Indo-China, and to Japan—and was more or less successfully copied in these countries; how, on the other hand, in India and in Persia the foreign ware, though long in general use, was never imitated;[1] and how, finally, after reaching the Christian West this porcelain influenced and in part replaced the home-made fayence, even before the secret of its composition was discovered — these, I think, are the prime factors in the history of porcelain.

It will, however, be convenient to say something of the porcelain made in the surrounding countries, especially in Japan, before taking up the subject of the Chinese commerce with Europe, for this reason among others: the products of the Japanese kilns became so inextricably mixed up with those of King-te-chen in the course of their journey to the West, that it would be impossible to treat of the one class apart from the other.

But before ending with the porcelain of China we must take a rapid glance at a large and complicated group —that decorated wholly or in part in European style.

Quite early in the century, perhaps before 1700, figures and groups in plain white ware, for the most part attired in the European costume of the day, were

[1] That is to say, no attempt was ever made to imitate the material—the hard paste.

exported from China. Many of these grotesque figures may be seen in the great Dresden collection, and a few in the British Museum. Later on it became the fashion for the European merchants at Canton to supply the native enamellers of that city with engravings, to be copied by them in colours on the white ware sent down from King-te-chen. In other cases the captain of a Dutch or English vessel lying in the Canton roads would employ a native artist to decorate a plate or dish with a picture of his good ship.

But the most frequent task given to these Canton enamellers was the reproduction of elaborate coats of arms upon the centre of a plate or dish, or sometimes upon a whole dinner-service. There is in the British Museum a remarkable collection of this armorial china, brought together for the most part by the late Sir A. W. Franks.[1] Orders came not from England alone, but from Holland, Sweden, Germany, and even Russia. Services were thus decorated for Frederick the Great and other royal heads. The practice seems to have been kept up during the whole of the eighteenth century, but we do not know the precise date at which it was introduced. In a few cases—the large Talbot plate in the British Museum is an instance (PL. XXI.)—the arms were painted in blue under the glaze, and such decoration was probably executed at King-te-chen. The small plate with the Okeover arms in the same collection was, according to the family tradition, ordered as early as the year 1700, but the decoration in my opinion would undoubtedly point to a later date[2] (PL. XII. 2).

[1] An important collection of armorial china was bequeathed to the Museum in 1887 by the Rev. Charles Walker.

[2] This plate belongs to a group in which the arms, above all the mantlings, are in the style of the seventeenth century. On these the *gules* is always rendered by an opaque iron-red, although the new *rouge d'or* is freely used in the rest of the decoration. I learn from my friend Colonel Croft Lyons that the arms on this plate are those of Leake Okeover, who was born in 1701. The initials, repeated four times on the margin, L. M. O., stand for Leake and his wife Mary. The plate, therefore, cannot well have been painted before, say, 1725.

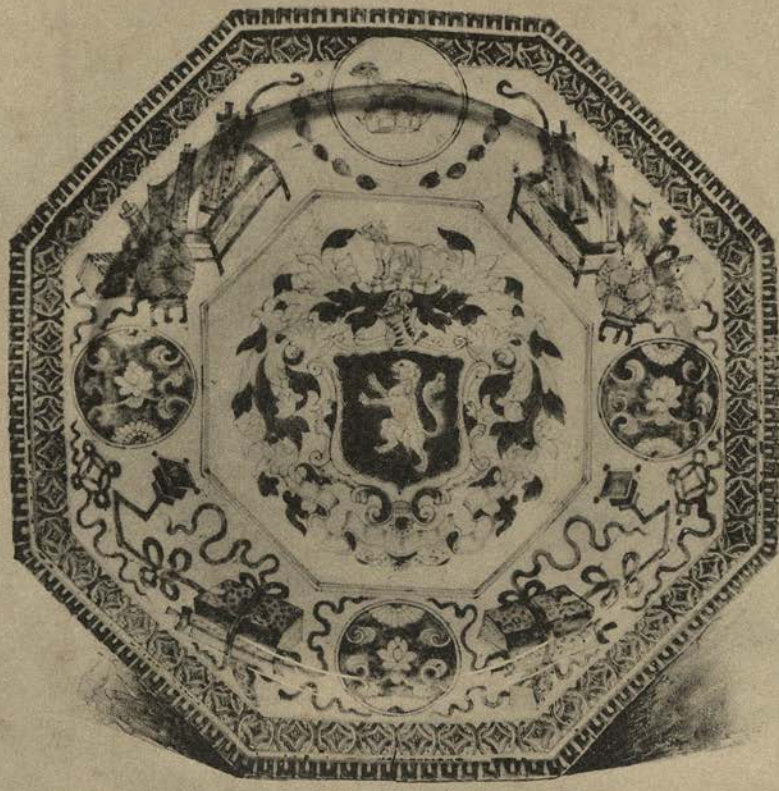


PLATE XXI. CHINESE, BLUE AND WHITE WARE

It is hardly necessary at the present day to mention that this armorial china has nothing to do with Lowestoft. A fictitious interest was, however, long given to this ware by its strange attribution to that town.

Much Chinese porcelain, either plain white or sparely decorated under the glaze with blue, was imported during the eighteenth century, to be daubed over, often in the worst taste, with a profusion of gaudy colours, in Holland, in Germany, and in England. At Venice, too, the plain Oriental ware was at one time elaborately painted with a black enamel.

More interest attaches to the porcelain enamelled at Canton for the Indian market. The Chinese seem in some way to have associated the *yang-tsai* or 'foreign colours' with the enamels made in the south of India, especially at Calicut, and it is possible that Indian patterns and schemes of colour may have influenced some of the developments of the *famille rose*. The Canton enamellers must at the same time have been working on the richly decorated ware for the Siamese market, but it is on their enamel paintings on copper that the Indo-Siamese influence is chiefly seen (see next chapter).

Nor were these exotic schemes of decoration confined to the Canton enamellers. At more than one time there was something like a rage for copying foreign designs—Japanese, among others—at King-te-chen, and that not for trade purposes alone, for as we have mentioned already, both Kang-he and Kien-lung seem to have taken a passing interest in the strange productions of the outer barbarian.

Of the many kinds of ceramic wares made in different parts of China which from the opacity of the paste we cannot class as porcelain, we can only mention two, both of which would probably come under the head of our kaolinic stoneware:—1. The YI-HSING YAO, made at a place of that name not far from

Shanghai, which includes the red unglazed ware, esteemed by the Chinese for the brewing of tea. This is the so-called Boccaro successfully copied by Böttger. Sometimes we find this stoneware painted with enamel colours thickly laid on, and the design is often accentuated by ridges or *cloisons*. 2. The KUANG YAO, of which there are two classes. The ware made near Amoy is a yellowish to brownish stoneware, thickly glazed and rudely decorated. This coarse pottery is much in favour with the Chinese colonists in America and elsewhere. Again in the south of the province of Kuang-tung, at Yang-chiang-hsien, a reddish stoneware has long been made. It is covered with a thick glaze, often mottled, more or less blue, and sometimes resembling the *flambé* glazes of King-te-chen. Indeed this Kuang yao at one time was copied at the latter place.[1] It is often stated that true porcelain was made in Kuang-tung, but the evidence on the whole is against this. We will quote, however, what the Abbé Raynal says (*Histoire du Commerce des Européens dans les Deux Indes*, 1770). He states that competition with King-te-chen had been abandoned 'excepté au voisinage de Canton, où on fabrique la porcelaine connue sous le nom de porcelaine des Indes. La pâte en est longue et facile; mais en général les couleurs sont très inférieures. Toutes les couleurs, excepté le bleu, y relèvent en bosse et sont communément mal appliquées. La plupart des tasses, des assiettes et des autres vases que portent nos négocians, sortent de cette manufacture, moins estimée à la Chine que ne le sont dans nos contrées celles de fayence.'[2] Compare with this what we have said about the rough porcelain exported to India in the seventeenth century (p. 85).

Since the extinction of the Ting kilns an opaque

[1] This class of Kuang yao must not be confused with the old heavy pieces of Yuan ware mentioned on p. 77.

[2] I quote, with a few contractions, from the edition of 1774.

white stoneware has been largely manufactured in the north, and near Pekin a commoner earthenware is largely made (Bushell, pp. 631-638).

The bricks with which the Porcelain Tower of Nankin was constructed were for the most part composed of a kaolinic stoneware.

Finally, we should point out that nearly all these various kinds of stoneware are represented in the British Museum collection.

CHAPTER XI

THE PORCELAIN OF KOREA AND OF THE INDO-CHINESE PENINSULA

Korea

THE self-contained culture of the Middle Kingdom spread at an early time to the less advanced and more or less tributary countries that surrounded it: on the south to the confused complex of states that are conveniently grouped together as Indo-China; on the north to Korea; and on the east, or more accurately on the north-east, to Japan. To these islands, however, the Chinese civilisation for the most part spread by way of Korea, and as this was in a measure the route taken in the case of the potter's art, it may be well to deal first with the great northern peninsula.

The Chinese claim to have conquered and even incorporated Korea as long ago as the Tang dynasty (618-907 A.D.), and even before that time the country had been overrun by the Japanese. The latter people have at all times presented themselves to the Koreans as ruthless conquerors and pirates, and indeed they succeeded during their last great expedition at the end of the sixteenth century in sweeping the country so bare that to this day its poverty and the low state of its artistic culture is generally attributed to this gigantic razzia from which the country never recovered. And yet Korea has always taken a place in Japanese estimation

second only to China as a source of their artistic and practical knowledge, if not of their literature and philosophy; and this is especially the case with regard to the potter's craft—the technical part of it above all. Time and again do we hear of famous Korean potters, or even of whole families and tribes, being brought over and set to work by the local Japanese ruler either with the materials they brought with them, or with the clays and glazes that their experience enabled them to discover in their new homes.

We need not, therefore, be surprised to find that after the wonders of Japan had been laid open to the admiration of the West, the greatest hopes were entertained of finding artistic treasures at least as valuable in the great peninsula to the west which still remained a forbidden land. Failing direct evidence of this wealth, it became the habit to attribute to Korea any Oriental ware, old or new, of which the origin was unknown. This tendency was taken advantage of by more than one enterprising dealer, and when at a later time the country was in a measure thrown open, cases of gorgeously decorated Japanese ware, brand-new from Yokohama or Nagasaki, were sent round by way of Chemulpo, the port of the Korean capital, so that their Korean origin could be guaranteed. Long before this, the home of an important group of Japanese porcelain, that now generally known as 'Kakiyemon,' had been found by Jacquemart in Korea. Now that of late years these various fallacies and *supercheries* have been exposed, and that the extreme poverty of the land in artistic work of any kind has been demonstrated, we may perhaps see a tendency to an undue depreciation of the artistic capabilities of the country in former days. We must at any rate remember that the Japanese experts, who are in the best position to know, have always maintained that the Koreans in the sixteenth century were possessed of the secret of enamelling in colour

upon porcelain, or, at all events, that they were acquainted with the coloured glazes of the *demi grand feu*, and that so good an authority as Captain Brinkley has accepted, as of Korean origin, specimens of enamelled ware still existing in Japanese collections.

Meantime we must be contented with the scanty examples of pottery, stoneware, and porcelain that have been actually brought home from Korea, and among these pieces we must discriminate between the wares of native manufacture and the porcelain that had been imported from China, either overland by way of Niu-chuang or across the Gulf of Petchili from the ports of Shantung. Of late years many specimens have been collected, chiefly at Seoul, the capital, especially by members of the various foreign legations, and some of these have found their way into European museums.[1]

Apart from some small pieces of modern blue and white and enamelled wares, undoubtedly of true porcelain, but very rough in execution and poor in colour, which are said to be of local manufacture, we find :—

1. A plain white ware often showing signs of age, but apparently in no way differing from the ivory-white ware of Fukien. Japanese experts, however, claim to distinguish pieces of Korean origin. Such specimens are much valued in Japan, and some are said to have been brought back after the great expedition at the end of the sixteenth century. We find also specimens of a heavy white ware, with decoration in a high relief, which is undoubtedly of native origin. At Sèvres is a large white vase, with dragons in relief, brought from Seoul.

2. Celadon porcelain, of many types. Of this ware there are many specimens in our museums. At Sèvres we find two bowls of a fine rich tint of olive green,

[1] I have examined the Korean pottery in the British Museum, at Sèvres, and that in some of the German museums, but I have not seen the specimens in the Ethnographical Museum at Hamburg, which are said to be very remarkable.

presented by the King of Korea to the late President Carnot 'as the most valuable of the ancient productions of his poor country.' In the same collection may be seen a case full of important specimens brought back in 1893 by M. de Plancy, the French diplomatic agent at Seoul. Among them are some large rude celadon vases, one with some attempts at blue decoration under the glaze. In the British Museum are several celadon bowls, some with moulded floral patterns in relief. Among some bowls of a greyish celadon from Korea, in the Ethnographical Museum at Dresden, I noticed some with an unglazed ring on the upper surface, pointing to a primitive method of support in the furnace, perhaps similar to that formerly employed in Siam. Dr. Bushell quotes from a Chinese work on Korea, written in the first half of the twelfth century, an account of the elaborately moulded wine-cups and vessels of all kinds made in that country. This ware is described as of a kingfisher green, but it may probably be regarded as a full-coloured variety of celadon. This interpretation is confirmed by a later Chinese work (published 1387), which distinctly says—I quote from Dr. Bushell's translation—'The ceramic objects produced in the ancient Korean kilns were of a greyish green colour resembling the celadon ware of Lung-chuan. There was one kind overlaid with white sprays of flowers, but this was not valued so very highly' (*Oriental Ceramic Art*, p. 681).

3. An important class of Korean ware is formed by the coarsely crackled pieces of brownish or yellow colour, which in China would probably be classed as Ko yao. These are often roughly decorated with daubs of blue under the glaze, resembling in this some of the older pieces brought from Borneo.

4. A greyish ware, inlaid with designs of white slip, on the principle of our 'encaustic tiles' of the Middle Ages. This is perhaps the only original type that we can connect with Korea, and it would seem that this is

the ware alluded to at the end of the quotation we have just given from an old Chinese book. This inlaid ware appears to have been greatly admired by the Japanese, for it was closely imitated in more than one district. The well-known Yatsushiro pottery, first made in the province of Higo in the seventeenth century, is distinctly a copy of this Korean model. Among the specimens at Sèvres brought home by M. de Plancy, there is a tall vase of this type cut down in the neck decorated with flying cranes in white slip. This ware, however, is not a true porcelain; at the best it is a kind of kaolinic stoneware, and the same may be said of most of the old heavy pieces brought back from Korea.

There is not much in the way of decorative design to be found on any of the varieties of Korean porcelain or stoneware that we have now described, and we may look in vain among the few ornamental *motifs* to be found on these wares for any marked divergency from Chinese types.

Siam and the Indo-Chinese Peninsula.

Under the somewhat vague heading of Indo-China we will collect a few notes upon the specimens of porcelain that have been found in the various states into which the great peninsula that stretches south between the China Sea and the Bay of Bengal is divided.

In looking through the artistic productions of all these countries, we find one marked characteristic; and that is the way in which Chinese forms and Chinese decorative *motifs* have pushed their way in and in part replaced the old Buddhist and Brahmanistic styles.

As matters now stand, the most important for us of these states is Siam, for here we are at once brought face to face with one of the places of manufacture of the famous heavy celadon ware which in the Middle Ages was carried by Arab and Chinese traders over all

the seas of the then known world. We shall have in a later chapter to come back to the question of this trade, and then we shall be able to show that the discussion as to the origin of this *martabani* ware has been the means, as is indeed often the case in such disputes, of throwing much light on the early history of Chinese porcelain.

For the present we are only concerned with an important discovery quite recently made not far from the frontier of Siam and Pegu. Many specimens of celadon, some of the older type, have come in recent years from various parts of Indo-China. In the museum at Sèvres are some pieces of rough greyish ware, with a thick, irregularly crackled glaze, brought back in 1893 by the *Mission Fournereux* from Siam and Cambodia; among these fragments of old celadon we find a pair of contorted bowls, fused together in the kiln, in fact undoubted 'wasters,' such as could only be found in the neighbourhood of the furnaces where they were fired. At the instigation of Mr. C. H. Read of the British Museum, Mr. Lyle has lately explored the remains of old potteries now hidden in deep jungle, at a place called Sawankalok, not far from the western frontier of Siam. These old kilns are situated some two hundred miles to the north of Bangkok, and about the same distance from the port of Molmein (Malmen). To show the importance of this discovery, we need only point out that near to the latter town lies the old port of Martaban, which played so important a part in the mediæval trade of the Arabs, and from which, doubtless, the name of Martabani, by which celadon ware has always been known in the Mohammedan East, is derived. Among the many fragments brought back by Mr. Lyle are some which from their distinct translucency, and from the whiteness and the conchoidal fracture of the paste, may be unhesitatingly classed as true porcelain. The colour of the glaze varies from a prevailing greyish green to a fine turquoise tint in a

few specimens. That the ware was made on the spot is proved by the presence of many defective pieces—'wasters' that had been thrown away—as well as by the numerous conical props (for the support of the ware in the kiln) found mixed with the fragments. On these tall, nozzle-shaped props the plates and bowls were supported in an inverted position. It is by this unusual method of support that we may account for the fact that the glaze covers the *whole* of the lower surface—so exceptional an occurrence in the case of porcelain—and at the same time for the absence of the glaze from a ring-like portion of the upper surface. We may note that a similar distribution of the glaze is found occasionally on large plates of the old heavy ware brought from other countries; of this there are notable examples in the museum at Gotha (see p. 72). The ground in these Siamese specimens has assumed where exposed, but there only, the deep red so admired by the Chinese in the old Lung-chuan ware. The paste, in many of the examples, has been moulded in low relief in the characteristic lotus-leaf pattern, while on a few pieces there is a rough decoration in greenish black under the glaze. All remembrance of these old kilns has completely passed away, and at the present day the local market is supplied with a rough stone-ware brought overland from Yunnan.[1]

The porcelain now found in Siam, of which many specimens have been lately brought to Europe, is of a very different character. This is the highly decorated enamelled ware which may be classed with the *famille rose* from the prevalence of the *rouge d'or* among the enamels. This ware, none of which can be earlier than the middle of the eighteenth century, is certainly made in China, but the presence in the decoration of

[1] For an account of the exploration of Sawankalok, see *Man*, the volume for 1901. By the kind permission of Mr. Read I have been able to closely examine the specimens which are now deposited in the British Museum.

1

2

3

PLATE XXII. CHINESE

certain peculiar Buddhist types makes it rather difficult to believe that the enamelling was in all cases executed in Canton. It is true that in the colours, and in the general style of the decoration, we are often reminded of the well-known Cantonese enamels on copper. The white surface of the ground is, for the most part, entirely hidden by a floral decoration; but amid this, on medallions surrounded by tongues of flame, we find centaur-like monsters with human heads, above which rise almond-shaped *nimbi*. From the top of the cover of the hemispherical bowls—the commonest form—rises a knob in the shape of the Buddhist jewel. The enamel of this ware appears to scale off readily, as if from imperfect firing. The prevailing colours are a deep red for the ground, and a bright green relieved with white and yellow for the design (PL. XXII.). While the finer specimens, as we have already said, remind us of the Canton enamels, others suggest rather, in the scheme of colour and decoration, the painted and lacquered bowls of India and Ceylon. In the Indian Museum at South Kensington may be seen an exceptionally fine collection of this Sinico-Siamese porcelain, lent by Signor Cardu, and a good opportunity is here provided for comparing its decoration with that on the rough earthenware from Ceylon and various parts of India which is exhibited in adjacent cases.

A coarse kind of porcelain is made in Annam. At Sèvres are some cups presented by the envoy from that kingdom. The rude pattern of bamboos painted in blue, *sous couverte*, on a greyish paste, does not give an exalted idea of Annamese civilisation.

In Japan we sometimes find specimens of a somewhat rough but picturesquely decorated ware, hardly a true porcelain, I think, which from the country of its origin is known as Kochi. From the nature and colour of its glaze it may be compared to some of

the old Chinese wares of the *demi grand feu*, and again, in certain points, to the earlier types of the Japanese porcelain of Kaga and Imari. Kochi has been identified with Cochin-China, but as the geographical ideas of the Japanese as to foreign states were not very definite—derived as they were from the Chinese geographers of the Ming period—we may perhaps be justified in looking further north for the source of this ware, either in Tonquin or in some part of Kuang-tung, the southernmost province of China.[1]

[1] We may mention that the Japanese appear also to give the name of Kochi to other wares, especially to the deep blue and turquoise porcelain with decoration in ribbed cloisons which we have attributed to early Ming times.

CHAPTER XII

THE PORCELAIN OF JAPAN

IN any assemblage of the ceramic products of Japan, more especially in one of native origin, it will be seen that porcelain no longer, as in China, holds the place of honour. This place would be taken, in such a collection, by a series of small bowls and jars mostly of a dark-coloured earthenware, which offer little to attract a European eye. On the other hand, a Western collector of Japanese ceramics would be likely to find more to interest him in the decorated fayence of which the kilns of Kioto and Satsuma have furnished the most exquisite examples. And yet, perhaps, in no country, not even in China, do we find porcelain, and that of a high technical quality, so largely employed for domestic use. The commonest coolie eats his rice or drinks his tea or *saké* from a bowl or cup of porcelain, while to find specimens of the old rough stoneware or earthenware we must explore the *Kura*—the fireproof storehouses of the rich noble or merchant—where, wrapped in cases of old brocade, these little objects are carefully preserved and classified. It would be out of place here to enter into the causes, political, social, and, we may add, also psychological, that have influenced the Japanese mind in thus associating all that is refined and intellectual with a class of pottery in which, to say the least, the artistic possibilities are confined within very narrow limits. But, as is now well known, this

tendency has been fostered by the ceremonies connected with the social gatherings known as the *Cha-no-yu* (literally 'hot water for tea'), when the powdered tea is prepared in and drunk from examples of these primitive wares. On such occasions the criticism and measured praise of the utensils employed forms an important—indeed an almost obligatory—part of the conversation among the guests.

The merits of Chinese porcelain, however, have long been acknowledged by the Japanese. Possibly as early as the ninth century specimens of celadon were imported. Direct communication with China has indeed since that time been subject to many interruptions, and it has at all times been carried on subject to galling restrictions and heavy duties levied by the governments of both countries. The Japanese have at many times made piratical descents upon the coast of China, and among the loot thus obtained many fine pieces of Chinese porcelain may have found their way to Japan. There was, however, a period in the fifteenth century during which a pretty steady trade was kept up, under the patronage of the pleasure-loving Ashikaga Shoguns, and many specimens of the earlier Ming porcelain must have reached Japan at that time. It has always been the celadon ware that has found most favour with the Japanese, and fabulous prices were, and indeed still are, given for fine pieces. We may note that such specimens are as a rule associated in the Japanese mind with the Yuan or Mongol dynasty. Speaking generally, however, it was not to this direct intercourse with China that the Japanese attribute their knowledge of ceramic processes. From an early date nearly all that they knew of the continental lands of Asia seems to have reached them from Korea, a country where they played alternately the part of ruthless invaders and devastators, and of eager and submissive students.

Let us then rapidly glance over the records preserved by the Japanese of their early lessons in the potter's art, that we may better understand the conditions under which the manufacture of porcelain was at length established in the country at the end of the sixteenth century.

Of the early pottery of Japan—rude figures, coffins, and strange-shaped vases of coarse earthenware dating from the early centuries of our era—we know, thanks to the researches of Mr. Gowland, much more than we do of the products of a similar stage of culture in China. In the British Museum we may see a collection, unique of its kind in Europe, of prehistoric objects, found most of them in or around the dolmen tombs of the early emperors, and brought together in Japan by that energetic explorer As, according to Japanese tradition, Korean potters were in those early days already settled in Japan, we need not be surprised to find that vessels of very similar shape, but of a rather better ware, have also been found in Korean tombs.

The earliest ware whose origin we can trace to a definite spot, is that formerly made at Karatsu, in Hizen, near to the great porcelain district of later days. Korean potters are traditionally reported to have been established here as far back as the early part of the seventh century. Of this primitive ware we will only note that the pieces were placed in the kiln in an inverted position, either without supports (the *Kuchinashi-de*, or 'unglazed orifice ware'), or supported by two props of rectangular section (the *Geta okoshi*, or 'clog supports'). This is a point of interest in connection with the similar devices used in firing some of the early celadon. But, as Captain Brinkley points out (*The Chrysanthemum*, vol. iii. p. 18), it was the introduction of tea from China[1] early in the thirteenth

[1] We may compare with this the impulse given, some four hundred years later, in Europe, to the spread of the use of porcelain at the time when tea was first introduced in the West.

century that gave rise, for the first time, to a demand for a better kind of pottery.

Kato Shirozayemon, a native of Owari, made, we are told, a five years' visit to China about this time (he returned to his native village of Seto in 1223) in order to study the potter's craft. The ware that he succeeded in making on his return to Japan has a reddish brown paste covered with a dark glaze, streaked and patched with lighter tints. This was probably more or less an imitation of the Kien yao, the 'hare-fur' cups made in the province of Fukien in late Sung times.[1] These cups, so prized by the Japanese, are of interest to us, as they may, in some degree, be regarded as the ancestral type from which the long series of Japanese tea-bowls is derived. But neither the ware of Toshiro (he is generally known by this shortened form of his name), nor that of his followers, has any claim to be classed as porcelain. It is, however, from Seto, the native village of Toshiro, where he set up his kilns on his return from China, that the commonest Japanese name for all kinds of ceramic ware, but more especially for porcelain, is derived, and the district is now a great centre for the production of blue and white porcelain.

Apart from this dark ware and from the heavy celadon, it would seem that at this time, and even later, the only true porcelain known to the Japanese was the white translucent ware of Korea, itself probably an offshoot of some early form of Ting ware. That Toshiro, who must have travelled in Fukien barely two generations earlier than Marco Polo, should only have learned to make this one kind of dark ware, shows how locally circumscribed was the knowledge and use in China, in Sung times, of different kinds of porcelain.

[1] See page 66. This Sung ware is known to the Japanese as '*Temmoku*,' and is highly esteemed by them.

We have to wait nearly three hundred years for the first attempts at the manufacture of porcelain in Japan. Gorodayu Shonsui, the second great name in the history of Japanese ceramics, made his way to Fuchow early in the sixteenth century. He probably visited King-te-chen, and returned to Japan in the year 1513, bringing with him specimens of the materials used by the Chinese, both for the paste and for the glaze of their porcelain. But although Shonsui on his return settled at Arita, in the centre of what was at a later time the principal porcelain district of Japan, he appears never to have discovered the precious deposits of kaolin in the neighbouring hills; for when the supplies brought from China came to an end, he and his successors had to fall back upon the manufacture of fayence. A few specimens of the ware he made have been preserved in Japan, and it has often been copied since Shonsui's time—even in China, it is said. It is a fair imitation of the Ming blue and white, and we may note that the plum-blossom often occurs in the decoration. We are told that the secret of the process of *enamel painting* was rigorously kept from Shonsui. We have seen that it is at least doubtful whether this process was known to the Chinese at that time, but the reference may be to the ware covered with polychrome painted glazes.

There are two pieces attributed to Shonsui, on native evidence, in the historical collection of Japanese pottery at South Kensington, but it is very doubtful whether these very ordinary pieces of blue and white are even as old as the later date (1580-90) somewhat strangely attributed to them on the same authority.

And now the Korean potter is found again on the scene. It was reserved for Risampei, a native of that country, to recognise for the first time—in 1599, it is said—the value of the white crumbling rocks outcropping on the hills that rise at the back of Arita.

Here he built his kilns and succeeded in making a fairly good imitation of the Chinese blue and white which was now becoming more and more in request as an article of commerce.

At this stage we are brought into contact not only with the local history and the politics of the day, but with the great questions of world traffic that were being fought out at the time. The rich western island of Kiushiu had long been the principal seat of the efforts of the Portuguese and Spanish missionaries. They had nowhere more converts than on the coasts of Hizen and on the adjacent islands. So that to one or more of these early kilns established near Arita we may reasonably assign some at least of those strange plates, painted with Biblical subjects, that have excited so much curiosity. I will only point to the large dish with an elaborate picture of the Baptism of Christ in the centre, now at South Kensington (PL. XIV.). The subject is painted in blue under the glaze and heightened by gilding. Around the edge we find a design of little naked boys—*amorini*, in fact—playing among flowers.[1]

We can find nothing in the Japanese records to throw light on the porcelain made in Hizen during the first half of the seventeenth century, but much of the somewhat roughly decorated blue and white ware (the larger dishes especially, made for India and Persia) has been classed, on the ground of the occurrence of spur-marks, and of the nature of the paste and decoration, as Japanese.[2] Some of this ware may be as old as

[1] Many, however, of these so-called Jesuit plates were probably painted at King-te-chen at a later date. Christianity was finally and ruthlessly crushed in Japan after the rebellion of 1637: in China it was tolerated up to the close of the reign of Kang-he (1721). I must refer back to a quotation from the Père D'Entrecolles given on p. 133. See also a curious note in Marryat, where a statuette of Quanyin, with the boy patron of learning, is described as 'a Virgin and Child.'—*Pottery and Porcelain*, p. 293.

[2] In the Dresden collection are several cases full of this early Japanese blue and white.

this time, when (I mean shortly before the middle of the seventeenth century) the demand from the West was ever increasing, and the Chinese supply was so uncertain and so inferior in quality.

Meantime the Dutch and English factories on the island of Hirado, opposite to the pottery district of Imari, were finally closed (1641), and all communication with the outside world prohibited. The only exception made was in favour of the strictly limited commerce carried on through the Dutch and Chinese merchants, who were confined in their prison-like factories at Nagasaki.[1]

Now it is a remarkable fact that our first definite information concerning the introduction of Japanese porcelain into Europe dates from this very period, and it is to approximately the same date that the Japanese ascribe the introduction of coloured enamels among the Hizen potters. One Higashidori Tokuzayemon, a potter of Imari, is said to have derived some knowledge of the precious secret from the captain of a Chinese junk trading at Nagasaki in 1648. With the assistance of Kakiyemon, a skilled potter of the same district, he succeeded in imitating the five-coloured enamelled wares of the Wan-li period. Another Japanese authority[2] gives the name of his assistant as Gosu Gombei, and states that by 1645, after many fruitless experiments, they were able to produce a ware decorated with coloured enamels and with gold and silver, which was exported at first through the medium of a Chinese merchant, and shortly after sold to the Dutch.

[1] The Chinese, however, were given much greater liberty than the Dutch.

[2] See the South Kensington handbook on Japanese pottery, p. 86. In the chapter on Japanese ceramics contained in the magnificently illustrated *History of the Arts of Japan*, published in 1901 in connection with the Paris Exhibition, a little further light is thrown on the history of porcelain in that country. But in this work and in the other guides published at the time of our American and European exhibitions (and the same may be said of the Japanese report contained in the South Kensington handbook), the same scanty materials are served up again and again.

So far from Japanese sources. On the other hand, we hear of an early Dutch ambassador sent from Batavia—'*Le Sieur Wagenaar, grand connoisseur et fort habile dans ces sortes d'œuvres*'—in fact himself a designer of patterns, one of which, it is said—white flowers on a blue ground—found great favour at this time. In the same work [1] we are told that this gentleman, who combined the most delicate diplomatic negotiations with practical commercial undertakings, took back with him to Batavia more than twenty thousand pieces of *plain white ware* (1634-35). It is, however, very probable that the Dutch may have had a great deal to do with the introduction of coloured enamels into Japan.

We must remember that during this time (say between 1630 and 1650) two important series of events were coming to pass which revolutionised the Eastern trade. These were, first, in China the troubles attending the expulsion of the Ming dynasty, including the burning of King-te-chen and the stoppage of the supply of porcelain for shipping at Canton; and secondly, the final triumph of the anti-Christian party in Japan, and the closing of the country to foreigners. It is no wonder, then, if the Dutch ambassador was empowered to offer almost any terms to the Japanese, provided that the latter would only make an exception in favour of the merchants of his country.

Turning now from the records of the Japanese and of the Dutch merchants, let us examine the specimens of Japanese porcelain that we find in our oldest European collections, and which we may reasonably assign to the seventeenth century. Apart from the blue and white, we find here two classes of enamelled ware which we now know to be of Japanese origin.

[1] *Ambassades Mémorables de la Compagnie des Indes Orientales des Provinces Unies vers les Empereurs du Japon*, Amsterdam, 1680, Part II. p. 102. I take the reference from Marryat, but I have not been able to find the book.

1

2

3

PLATE XXIII. JAPANESE, KAKIYEMON ENAMELLED WARE

It may indeed be said that it was in the separation, and in the definite attribution to Japan, of these two groups, that the first step was made towards a scientific classification of Oriental porcelain, and for this work we are chiefly indebted to the labours of the late Sir A. W. Franks. We will first deal with what may on the whole be regarded as the oldest group.

KAKIYEMON WARE.—Under this name it will be convenient to describe the compact group of decorated porcelain that we find taking so prominent a place in our old collections. Of this ware there is a most representative series of specimens in the British Museum. There are also many interesting pieces scattered through the rooms of Hampton Court. The chief characteristics of this Kakiyemon ware are the creamy-white paste, without the bluish tinge so common in other Japanese porcelain, the moulded forms (in the case of the small vases and of the dishes with scalloped edges), and above all the peculiar nature of the decoration that is somewhat sparely scattered over the ground. Here we find the well-known combination of the pine, the bamboo, and the plum (Japanese *Sho-chiku-bai*) associated with quaintly executed figures in old Chinese costume. In the foreground is often found a curious hedge or trellis-fence of straw or rushes, and at times, at the side, a grotesque tiger is seen disporting in strange attitudes (PL. XXIII.). Exotic birds, singularly ill-drawn, are sometimes seen, but individual flowers are introduced with great decorative feeling—witness the sprig of poppy, a rare flower in Japanese art, on a plate in the British Museum. There is a non-Japanese element in the design which seems to hamper the native artist, but whether this element is to be sought in Holland or in Korea—or perhaps in a degree in both—is quite uncertain.[1] As

[1] We know of no Chinese type to which we can refer this decoration. Certain points of resemblance have been found with the work of the great

for the enamel colours employed, the most important point is the use of a blue enamel *over the glaze*. This colour is freely employed in combination with the usual opaque red. The other colours, more sparingly used, are a green of emerald tint, a pale yellow, and a poorish purple. The full command of a fine-coloured blue enamel at so early a date is interesting. In the earlier Chinese examples this colour is poor, and the enamel is apt to chip off. On a few rare pieces of this Kakiyemon porcelain we see the blue applied under the glaze, and there is one specimen in the British Museum on which the two methods are combined. We rarely come upon specimens of this ware in Japan. In China, at one time, it was copied for exportation, and Dr. Bushell thinks that the porcelain classed as *Tung-yang-tsai* or 'Japanese colours,' in the time of Kang-he, is of this class. A large octagonal jar at South Kensington, somewhat crudely decorated in the Kakiyemon style, which came from Persia, may possibly be of Chinese origin. There is, at any rate, no doubt that this is the ware known, perhaps two hundred years ago, in France as the *première qualité colorée*, and in England and Germany as 'old East Indian.' It was reserved for Jacquemart to class it as Korean. It is, however, remarkable that in neither the Japanese nor the Dutch records of the time do we find any notice of a decoration at all resembling that found on this ware. Any hint that is given from these sources would apply much better to the class of porcelain that we have next to describe. In later chapters we shall see that the important position given to this Kakiyemon porcelain by our ancestors is reflected in the decoration applied to more than one of the early wares of Europe.

IMARI OR OLD JAPAN.—The many kilns that sprung up in the province of Hizen during the

contemporary Japanese artist Tanyu. The most characteristic *motifs* are the tiger, the dancing boy with long sleeves, and the straw hedge.

1

2

PLATE XXIV. 1. CHINESE. 2. JAPANESE

course of the seventeenth century, along the slope of the hills that produced both the china-stone and the china-clay, were chiefly occupied in making blue and white porcelain, the *sometsuke* or 'dyed' ware of the Japanese, and this, we may add, is still the case.

The underglaze blue indeed has always remained the dominant element in the Imari porcelain, and to judge by the older pieces the employment of other colours crept in gradually. This blue is generally of a peculiar dark lavender or slaty tint, and with the addition to it of a little gilding we obtain already the general effect of the 'old Japan' decoration. When to the blue and gold was added an opaque iron-red (from this pigment the Japanese succeeded in obtaining a great variety of fine tints), we attain to a scheme of decoration which, at first sight, gives the impression of being built up with a full palette of colours; this is the typical *nishiki-de* or 'brocaded' ware of the Japanese (PL. I.). Indeed in many of the finest specimens we find nothing beyond these three colours—blue, red, and gold. But the blue, derived from the native ore, the concretionary 'wad,' containing generally more manganese than cobalt, is often wholly or in part replaced as the dominant colour by a glossy black painted over the glaze, and this, too, in specimens with some claims to antiquity. The other colours of the Chinese 'pentad,' the green, the yellow, and the purple, generally occupy quite subordinate positions. It is to be noted that in this ware we never find the blue applied as an enamel *over* the glaze.

It would be a mistake to regard the whole series of Imari enamelled porcelain as made only for exportation. It is true that the large vases and plates with the well-known effective but somewhat overloaded decoration are not found in Japan, although such pieces have been made at Arita for the last two hundred years for exportation from Nagasaki; but the more

quietly decorated ware of Imari, in endless forms and with decoration of the most varied kind, has long been in general domestic use, and many smaller pieces of great artistic beauty have been lately obtained from Japanese collections.[1]

In fact, the early enamelled wares of Imari are recognised by the Japanese as the *fons et origo* of most of the decorated porcelain, to say nothing of the later pottery, of their country. We have seen how our 'old Japan' group started from a slight modification of the blue and white, but we must find place also for an early ware decorated in five colours, somewhat in the Wan-li style. Of this ware but few pieces survive. The tradition, however, was carried on at Kutani and at many of the Kioto kilns in the eighteenth century.

Late in the seventeenth century the Kizayemon family obtained the privilege of supplying the porcelain, decorated with cranes and chrysanthemums, for the personal use of the Mikado, and at the present day a member of this family is said to still claim the right of purveying to the imperial court. It is to one of these Kizayemons, but not until the year 1770, that the merit of the invention of seggars for holding the porcelain in the kiln is given by the Japanese. It would seem that before that date no such protection was given. That such a claim should be made shows how completely Japan at this time was shut out from the rest of the world.

And here we may point out how self-contained was the development of Japanese porcelain during the palmy days of the Tokugawa *régime* (say from 1650 to 1850). As in the case of the kindred arts of metal-ware and lacquer, any European influence was quite of a casual and what we may call fanciful nature; while the new methods of decoration that came into use in

[1] The 'old Japan' was at one time closely copied at King-te-chen for exportation to Europe. (*Cf.* PL. XXIV. 1.)

LIBRARY
OF THE
BOMBAY
BRANCH
OF THE
ROYAL ASIATIC SOCIETY

Japanese. Imari ware.

China in the eighteenth century were never recognised or copied, even if they were known. What imitation there was of China was confined to the copying of Ming types; the Manchus, in fact, were never acknowledged by the Japanese, and their arts were under a taboo almost as strict as that applied to the civilisation of the West. No better instance of this conservatism could be given than the fact that the use of gold as a source of a red pigment, the basis of the *famille rose* in China, appears to have been unknown until the beginning of the nineteenth century, and even then the *rouge-d'or* was but sparingly applied. On the other hand, the Chinese were always eager, in the interest of trade, to copy the wares exported from Nagasaki, and we shall see later on what an influence the various products of the Hizen kilns had upon the porcelain of Europe.

These, then, were practically the only kinds of Japanese ceramic ware known in Europe until the opening of the country in our days—the blue and white or *sometsuke*, the 'old Japan' or *nishiki-de*, and the peculiar type which we have classed as Kakiyemon. To this list we should perhaps add the plain white ware, much of which was subsequently decorated in Europe.

These wares were all of them made in the kilns near Arita, nor do they exhaust the products of even that district. But during the eighteenth century the manufacture of porcelain spread to other parts of Japan where porcelain was made exclusively for home consumption. Many of these kilns were established under princely patronage, some in the very gardens of the feudal lord, while a special interest is given to others by their association with certain skilled potters and their descendants, whose names, in opposition to what we found was the practice in China, we can thus connect with the wares.

But we will first say something about the composition and the processes of manufacture of the porcelain of Japan, dwelling, however, only on those few points where we find divergences from the practices obtaining in China.

In the first place, then, as to the composition of the paste. To judge from the few trustworthy analyses of Imari ware that have been made, the paste would seem to be of a very abnormal type; the amount of silica —70 to 74 per cent.—is quite unusual; there is an almost total absence of lime, so important a constituent of Chinese porcelain; while we find from 4 to 5 per cent. of the alkalis. But, in place of the potash found in the wares of China, in the Japanese paste the prevailing alkali is invariably soda.

The materials of the porcelain made in Hizen were obtained originally from the famous 'Hill of Springs' —Idzumi Yama—which rises behind the town of Arita. Of late years, however, large quantities of clay and stone have been brought from the island of Amakusa, which lies to the south. It is from the products of decomposition of a volcanic rock, a kind of quartz-trachyte, that these materials are obtained, not from a true granitic rock as in Owari [1] and in most other seats of porcelain manufacture all over the world.[2]

In the neighbourhood of Arita the raw materials lie conveniently at hand; and in the Japanese accounts there is no definite reference to two distinct elements in the constitution of the paste. However, that something corresponding to our china-stone is made use of, is shown by the importance attached to the methods by which the stone is reduced to powder. The primitive

[1] The composition of the Owari porcelain is more normal, the silica only amounting to 65 per cent.; but as the paste contains little or no lime, it comes nearer to the hard porcelain of Berlin than to the milder Chinese type.

[2] Much, however, of the china-stone of Cornwall differs little in composition from the Imari stone; but the latter contains, as we have said, soda, in place of the more usual potash.

stamping-mill, worked by a long lever of wood, moved either by the foot of a coolie or by a simple hydraulic arrangement, has long been employed for pounding the stone, and the hills around Arita re-echo with the thuds of these mills.

The potter's wheel plays here a larger part than in China, and the Japanese are exceptionally skilful throwers. Still, notwithstanding some native statements to the contrary, the use of moulds either of wood or of terra-cotta has long been known—witness the old Kakiyemon porcelain.

We now come to the most important departure from the Chinese procedure. In Japan, the ware (as is, indeed, universally the case in Europe) receives a preliminary baking in a specially constructed biscuit kiln before the application of the glaze. The adoption of this practice would seem to point to a greater tenderness in the raw clay.

The glaze (Japanese *kusuri*—'medicine') is prepared by mixing the finely powdered china-stone with the ashes of certain kinds of wood. The ashes from the bark of the usu-tree (*Distylium racemosum*) are especially in request for this purpose, and it is certainly remarkable that these ashes contain nearly 40 per cent. of lime, the element that is conspicuous by its absence from the paste.

The furnaces in which the principal firing takes place are of a bee-hive shape: they are arranged in rows of from five to ten hearths placed by preference on the slope of a hill, so that each succeeding hearth rises two or three feet above its neighbour. This plan is probably a modification of the old Ming type of furnace, and the system, it is said, was introduced from Korea.

The use of seggars appears never to have become general, and this is probably the reason why the marks of 'crow's-feet' and other kinds of struts, used to

support the vessel in the kiln, are often conspicuous on the base of the larger pieces.

Neither in their glazes nor for their enamels have the Japanese ever made use of any colours unknown to the Chinese, nor until quite recent times have they paid much attention to single glazes. There is, however, one important exception to this last statement, in the *Sei-ji* or celadon ware, which with them has always been the ideal of classical perfection, and which they have imitated with varied success. For their reds they have always been confined to pigments derived from iron, but with these opaque intractable materials they have obtained a great variety of effects, especially by means of delicate gradations of strength. In the case of the blue under the glaze, the Japanese have never attained to the mastery of their teachers: there is very commonly a tendency of the colour to run, and a bluish tint is thereby given to the white ground; the blue, moreover, on the older specimens, is generally dull, and in modern times often crude and unpleasant.

The shapes and uses of Japanese porcelain start, for the most part, from Chinese models of Ming times, but there are a few forms that are not found in China. The *hi-bachi* or fire-bowl, though more commonly of bronze, we sometimes find made of celadon or of blue and white porcelain; the *kôrô* or incense-burner, with a cover of pierced metal, is a form characteristic of Japan; and the more elaborate *choshi-buro* or 'clove-bath' is, I think, peculiar to the country; so, too, are both the *saké*-bottle of cylindrical or square section, with a curved lip for pouring, and the little cups, in sets of three, often of egg-shell ware, from which the *saké* is drunk. The use of the miniature teapot, in which the better sort of tea is infused, is again confined to Japan; but these little *kibisho*, unlike the vessels for powdered tea used in the *Cha-no-yu*, have not, I think, been long in fashion.

We have described the three kinds of porcelain made in Hizen for exportation to Europe, and we have seen that by the middle of the seventeenth century this commerce, in the hands of the Dutch, and to some extent of the Chinese, had already attained large proportions. Before turning to the kilns that sprung up in other parts of Japan during the eighteenth century —of these the origin in every case can be traced back directly or indirectly to the early Hizen factories—we must say a word about some other varieties of porcelain made in the same neighbourhood, but not destined for foreign use.

The village or town of Arita, of which the better-known Imari is the port, lies about fifty miles to the north-east of Nagasaki, and it may almost be regarded as the King-te-chen of Japan. The clay and china-stone used there is now brought, for the most part, from the adjacent islands, from Hirado, from Amakusa, and even from the more remote Goto islands. By a combination of some of the most important potters of the district, and with the assistance of some wealthy merchants, a company, the *Koransha*, was formed some twenty-five years ago,[1] and an attempt was made to keep up the quality of the porcelain produced, at least from a technical point of view. It was certainly time for some such effort to be made, for about that period, just after the Philadelphia Exhibition, the arts of Japan reached perhaps their nadir.

Mikôchi or Hirado Ware.—It was with a somewhat similar object that, long before this—about the middle of the eighteenth century—the feudal lord of Hirado had taken some of the kilns near Arita under his patronage, and had also attempted to regulate the wasteful and careless way in which the materials were

[1] It is to this *Koransha*, I understand, that we are indebted for the historical notices on Japanese porcelain that have appeared on the occasion of our successive international exhibitions (see above, p. 183 note).

quarried on the slopes of Idzumi Yama. This was the origin of the beautiful Mikôchi (*Mi-ka-uchi*) ware, which was at first produced only for the use of the prince and of his friends, or for presentation to the Shogun.

To understand the important influence of this aristocratic patronage upon the scattered kilns of Japan (only a few of these, indeed, produced porcelain), I cannot do better than quote the words of Captain Brinkley, perhaps our first authority on Japanese ceramics: 'During the two centuries that represent the golden age of Japanese ceramic art, that is to say, from 1645 to 1845, every factory of any importance was under the direct patronage either of the nobleman in whose fief it lay, or of some wealthy amateur whose whole business in life was comprised in the cultivation of the *Cha-no-yu*. The wares produced, if they did not represent the independent efforts of artists seeking to achieve or maintain celebrity, were undertaken in compliance with the orders of the workman's liege lord, or of some other exalted personage. Considerations of cost were entirely set aside, no expenditure of time and toil were deemed excessive, and the slightest blemish sufficed to secure the condemnation of the piece.' All these conditions were swept away by the revolution of 1868 and by the opening of the country to foreigners. 'Codes of subtle æsthetics and criticisms of exacting amateurs had no longer to be considered, but in their stead the artist found himself confronted by the Western market with all its elements of sordid haste and superficial judgment.'

To return to the Mikôchi porcelain, this Hirado ware, for it was known also by that name, produced at the prince's kilns, six miles to the south of Arita, was for more than a hundred years regarded as the *ne plus ultra* among Japanese porcelain, and its value was enhanced by the fact that the ware never found its way into commerce. In the *sous couverte* blue it was sought to

imitate the paler type of the old Ming ware. The best-known examples of this blue decoration are seen on the little cups delicately painted with Chinese boys at play under pine-trees—the more the boys the better the ware, it is said. Careful manipulation of the clay and finish of surface has never been carried to a higher point than in the varieties of this porcelain worked with pierced patterns and ornaments in relief, so prized by Japanese collectors. On these we find, in addition to the blue, a peculiar tint of pale brown. Of this coloured ware there are some good specimens at South Kensington.

ÔKÔCHI OR NABESHIMA WARE.—The same high technical finish has been attained in the Ôkôchi porcelain made at the village of that name (*Ô-kawa-uchi*) three miles to the north of Arita. The kilns here were patronised by the Nabeshima princes, who belonged to one of the greatest feudal families of old Japan. In this case also, the small highly finished pieces were destined for presents only and were never sold. This ware is generally to be identified by the comb-like pattern (Japanese *Kushi-ki*), painted in blue round the base of the cups and bowls.[1] Like the little Chinese boys of the Mikôchi ware, this pattern is often seen on very inferior ware of quite modern manufacture. A peculiar kind of finely crackled celadon was also made at Ôkôchi.

In the Arita district are many other factories, some of which, as those at Matsugawa, have at times produced excellent ware. Of most of these private kilns, however, the chief outturn has always been confined to the blue and white *sometsuke* for domestic use.

We have now to follow the steps by which the knowledge of porcelain was carried from the western

[1] Captain Brinkley speaks of the lower edge being serrated, but I have never seen any specimen of this serration

island to other parts of Japan. We had better pass at once to the Kioto kilns, for although the manufacture of porcelain was not introduced at the old capital so early as at some other places in the main island, yet the skill of its artist potters and their connection with the imperial court led, in the course of the eighteenth century, to the spread of their influence in every direction.

Kioto was already in the sixteenth century the seat of more than one ceramic industry, but it was not so much the problem of the materials for a true porcelain, as the questions connected with the coloured enamels lately brought over from the West, that excited the curiosity of the Kioto potter at this time. The story goes that one Aoyama Koyemon (I quote again from *The Chrysanthemum*, April 1883), who came to Kioto from the porcelain district of Hizen, to obtain orders for the new enamelled ware, allowed the secret of its manufacture to be wormed out of him by a crafty Kioto dealer, and that for this breach of trust the wretched 'traveller' was crucified by his liege lord on his return to Arita. This occurred just before the death of the great ceramic artist Ninsei (about 1660), and the old potter at once obtained the knowledge of the new enamelling process from the above-mentioned crockery merchant. This man, we should add—the dealer—is said to have gone mad when he heard the dreadful fate of his friend Koyemon—a fate for which he was in so large a measure responsible. Such stories as this, and there are other similar ones in the annals of Japanese ceramics, call to mind the adventures of the experts of the eighteenth century, who trafficked with the German princes in the *arcana* of the newly introduced porcelain, but for these German experts the penalties for breach of confidence were not of so severe a nature.

Nomomura Ninsei is generally held to be the greatest ceramic artist that Japan has produced. The

decorated stoneware and pottery that he turned out late in life may be regarded as the common source from which the wares produced in the two main groups of kilns in the neighbourhood of Kioto took their origin. With one of these groups, with the wares produced in the factories around Awata, we are not concerned here, for no porcelain was ever produced in that suburb of Kioto. But to the other group of kilns, called after the beautiful temple of Kiyomidzu, to the north of Kioto, belong some of the most artistic specimens of porcelain in our collections. It was here that this somewhat uncongenial material was forced for the first time to adapt itself to the fanciful genius of the people. It was to this district that the great original artist Kenzan, the brother of the still more famous Ogata Korin, came towards the end of the seventeenth century. It is true that little of this artist's work is executed in a true porcelain, but his picturesque signature, scrawled in black, is sometimes found on the so-called more noble ware (PL. B. 21). Like his brother Korin, Kenzan obtained his effects by the simplest means, sometimes by mere patches of colour cunningly distributed over the surface. The work of both these men has of late found many admirers and imitators in France.

It was not till the beginning of the eighteenth century that we have any definite record of the manufacture of porcelain in Kioto. About that time Yeisen devoted himself to the imitation of Chinese celadon. If we are to find any common note in the wares produced in the various Kioto potteries, it would be in a certain studied rudeness both in shape and decoration, the very opposite of the delicately finished products of the Hizen kilns. The rare pieces of Ming porcelain with coloured decoration were eagerly sought for and copied, not in a slavish way, but rather so as to catch the spirit of their design. In fact these Japanese copies might be made to throw some light on that rather obscure

subject, the origin of enamel decoration in China in the days of the later Ming emperors.

An apparently early class of Chinese enamelled ware, somewhat rudely painted with a predominant iron red combined with a subordinate green, was a great favourite with the Kioto potters, but we find also copies of the Wan-li 'pentad,' the designs in this case sparely scattered over the ground, generally in formal patterns of a textile type. The blue and purple ware with ribbed *cloisons* which the Japanese associate with their mysterious land of Kochi was also in favour, but at Kioto, I think, this ware was not copied in porcelain. So of the blue and white made at this time at Kiyomidzu, it is distinguished from both the Hizen and the Seto wares by a certain rudeness in the shape and decoration, a character preserved by a great deal of the *sometsuke* still made in this district.

Quite a different spirit was, however, brought in by Zengoro Riyozen, the tenth descendant of a famous family of potters. This Zengoro was a potter of universal genius, the foremost ceramic artist indeed of the peaceful and luxurious period at the beginning of the nineteenth century, when the Tokugawa Shogun at Tokiyo set an example of an extravagant expenditure and brilliant display which was only too readily followed at the courts of the great feudal nobles. In the art work of that time, in spite of the unsurpassed perfection of execution and love of gorgeous decoration, we can already trace the signs of a coming decay. Zengoro, besides reviving with some success the deep sapphire blue, *sous couverte*, of Ming times, succeeded in producing from an iron-oxide a red ground which vied with the famous coral reds of the previous century in China. But it was rather the Ming red, *sous couverte*, that made from 'powdered rubies of the West,' that he professed to copy. Over the red ground of his plates and little bowls he painted his design in gold of the

finest quality, and on the white ground of the inside placed a scant decoration of his under-glaze sapphire blue. Some of these dainty little cups are shown in a table-case in the British Museum, but if we compare them with the exquisite Ming bowls of a deep red derived from copper in the same collection, the difference of the quality of the two tints is at once apparent. As, however, it was a matter of *convenance* to go back to a Ming model, it was with the latter ware that Zengoro's work was compared. It was for his success in this kind of decoration (produced about the years 1806-1817) that the great Kioto potter received from his patron, the prince of Kishiu, a seal with the character *yei-raku*, or reading in modern Chinese *Yung-lo*, the name of the Ming emperor (1402-24) with whom the red copper glaze is traditionally associated (PL. B. 22).[1] This, then, is the origin of the name *Yeiraku kinrande* for the 'gold brocade' ware of Zengoro. At a later time this form of decoration was carried by Zengoro's son to Kaga, where in a debased form it became characteristic of a ware with which our markets were at one time flooded.

KISHIU WARE.—This *kinrande*, however, is not the only kind of porcelain with which the name of this protean artist is associated. Although the name Yeiraku given him by the Prince Nariyuki is generally connected with his brilliant red and gold ware, it was a porcelain of quite another kind that our Zengoro the tenth, or perhaps his son Hozen, the eleventh of the family, turned out from the kilns that had been erected by

[1] Another seal was granted to Zengoro with the inscription (reading in Chinese) *Hopin chi liu* (PL. B. 24). This refers to an old tradition that Shun, a Chinese emperor of very early date, had, before his accession to the throne, made pottery at a place called Hopin, in Honan. This story is told by Ssuma Chien, the 'Herodotus of China,' and would be well known to scholars in Japan. These characters are sometimes found on Japanese ware. (*Cf.* Bushell, chap. i., and the Franks catalogue, fig. 191, where, however, the words are wrongly interpreted.) Yeiraku, I should add, may be also rendered 'long content.'

that prince in the garden (the *Ô-niwa*) of his palace near Wakayama. The Japanese tell us that this well-known Ô-niwa or Kishiu ware was made in imitation of a kind of porcelain or fayence brought long ago from Kochi, a name generally rendered as Cochin-China, in any case a country to the south of China. We have seen grounds for associating this *Ô-niwa yaki* rather with an early type of Chinese polychrome ware, painted on the biscuit with glazes of three or perhaps four colours. In any case, in the Japanese ware the turquoise, the purple, and the straw-coloured yellow (this last quite subordinate) are applied in a similar fashion, and this is indeed practically the only Japanese ware on which we find the turquoise colour that has played so important a part in other countries. It is here the most important colour of the triad, but occasionally we find it replaced by a deep, rich green. On this Kishiu or Ô-niwa ware, known also to the Japanese as *Kairaku* from another seal used by Zengoro (PL. B. 20), the decoration is formed by ribs or lines which separate the surface into shallow *cloisons*. In other cases the turquoise or the aubergine purple is found alone as a monochrome glaze.

Very few, however, of the large vases of this ware that have been exported of late years to Europe, and especially to America (where the turquoise blue has always been a favourite, as in the case of Chinese porcelain), can have come from the kilns in the 'prince's garden.' This ware has, indeed, for some time since, been imitated at many other places—at Tokiyo, and since 1870 especially at Kobe, where vast quantities have been manufactured for exportation. These copies have gone through the stages of degradation in design and colour that usually accompany a large commercial production.

Another famous potter, Mokubei, who worked at Kioto about the same time, is said to have made great

improvements in the moulds employed by him, especially in those used for copying old Chinese pieces. But we certainly cannot accept the statement that he was the first potter in Japan to use moulds. This same Mokubei is said to have copied the richly glazed stoneware of Kochi, a ware that had long been prized by the Japanese, and to which, or rather to the kindred porcelain, we have already referred. It is described as a hard pottery, with archaic moulded decorations, coated with lustrous glazes of green, purple, yellow, and golden-bronze. Mokubei also worked for the prince of Kishiu, and it would be interesting to know what relation, if any, he had with Zengoro and his Ô-niwa yaki.[1]

SANDA CELADON.—The kilns set up at Sanda, a small town to the north-west of Osaka, by the feudal lord of the district, have acquired in Japan a great name on account of the celadon ware there made. This *Sanda-seiji* was first produced at the end of the seventeenth century, and followed more closely the famous old heavy wares of Lung-chuan than did the more delicately finished celadon porcelain made about the same time at Ôkôchi in Hizen. In addition to these wares, the Japanese lay claim to an ancient celadon of native manufacture, and much ink has been spilt in Japan upon the question of the origin of certain archaic pieces preserved in temples and private collections. The bulk of the Sanda celadon, we should say, is a solid useful ware with small artistic pretensions.

THE WARES OF OWARI AND MINO.—If, leaving Kioto, we take the old high-road to Yedo—the Tokaido—we pass through a succession of villages where the local wares are displayed in the stalls lining the route. Some of this pottery is not without merit, and historical

[1] This question of the relation between the Kishiu, the Kochi of the Japanese, and our class of old Ming wares with coloured glazes, is full of difficulties. It remains for some Japanese connoisseur, who is at the same time both an expert in ceramics and a good Chinese scholar, to clear it up.

associations give interest to more than one variety. But it is not till we have passed Nagoya, a large industrial town at the head of the Gulf of Owari, that we enter a true porcelain district—the only district in Japan that has vied with Hizen in the production of porcelain for domestic use and for exportation. Not far off is the village of Seto, the home of Toshiro; it was here that on his return from China, early in the thirteenth century, he set up the first kiln that produced in Japan a ware with any claims to artistic merit. But, as we have said at the beginning of this chapter, the ware made by Toshiro was no true porcelain, although the expression *Seto-mono*, derived from his native village, is used rather for porcelain than for other kinds of pottery. The term is, in fact, about equivalent to our word 'china.'

It was not till nearly six hundred years after Toshiro's day that the village of Seto again became prominent, when in the year 1807 the art of making porcelain was, after many difficulties, successfully introduced from Hizen. This was thanks to the energy of the potter Tamakichi, who ventured a journey to Hizen to find out the secrets of the manufacture. As a reward for his services the privilege of wearing two swords and the rights of a *samurai* were granted to Tamakichi by the lord of Owari. Here again we find the new industry established under the fostering care of the local prince.

Over a wide district, more especially to the east on the borders of the province of Mikawa, the decomposing granite furnishes an excellent raw material, and centres for the manufacture of porcelain have sprung up sporadically over a tract stretching away to the north, as far as the province of Mino. But most of these kilns have never produced anything better than a common blue and white ware.

In composition the paste of the Owari porcelain is much closer to the normal type than that of the Hizen wares (see note, p. 190). Of late years the Owari potters

have succeeded in turning out pieces of unprecedented size, in the shape especially of dishes and of slabs for the tops of tables. From the artistic side, however, little can be said in favour of this ware: the blue is generally crude in quality, often resembling that found on the commoner European porcelain of later days.

Another art was revived some years ago in the neighbourhood of Nagoya, the chief town of this district—I mean that of enamelling in metallic *cloisons* (the *Shipô*, or 'seven treasures' of the Japanese), and of late years the two industries have been combined by applying the metallic *cloisons* and the enamel to the surface of porcelain. A similar ware has also been made at Kioto, but in this case the soft fayence of Awata has been used as a base. Enormous quantities of both these varieties of *cloisonné* have been brought to Europe, and when we consider the amount of skilled labour required in the manufacture, we can only marvel at the prices for which this ware is retailed in London.

Much of the cheap Japanese blue and white sold in Europe comes from this Owari district, but of late years more ambitious things have been attempted there—monochrome glazes of the *grand feu*, including a curious variety of *flambé* ware with a chocolate-coloured ground.

KUTANI WARE.—There only remains one important centre of porcelain manufacture for us to describe. This lies far away among the mountains that skirt the western coast of Japan. The feudal lords of that country, however, the princes of Kaga, were reputed to be the most wealthy of all the daimios of Japan. A junior branch of this family, the lords of Daichoji, as early as the first half of the seventeenth century established a kiln at the mountain village of Kutani. In the year 1660 an emissary was despatched to Hizen to spy out the land and learn what he could of the new processes lately introduced there. The story of his difficulties is only

another version of that told of Tamakichi, the Seto potter. After many adventures, abandoning the wife that he had been forced to marry at Arita and the child he had had by her, he returned to Kaga, equipped with the desired information and experience. He succeeded in making a true porcelain with a white ground, decorated in a style founded, it is said, both on the contemporary Hizen ware and on the enamelled stoneware of Kochi. Morikaga, a famous artist of Kioto, was retained to furnish designs for the decoration. We have in the British Museum a spherical vase, painted in the five colours with a series of spirited figures, which may well date from that time (PL. XXVI.). Examples of this period are rare, but some of the old drug-pots, jealously guarded by their owners, that were still, a few years ago, to be seen in the druggists' and herbalists' shops of Osaka and Sakai, may perhaps be traced back to the potters of the seventeenth century, either those of Kaga or those of Hizen. At this time, in fact, the Kaga ware had hardly differentiated itself from that of the parent province. It was not till the beginning of the eighteenth century that the typical Kutani ware, one of the most original and decorative ever turned out from Japanese kilns, was produced.

On a greyish paste, hardly to be reckoned as porcelain, the lustrous, full-bodied enamels, almost unctuous in quality, are laid with a full brush. The whole surface is generally covered, and a dark, juicy green is the prevailing colour, over which a design of black lines is drawn. Next in importance among the enamels there comes first purple, then a heavy blue enamel which somewhat clashes with the other colours, and finally a full-toned yellow. It would seem from Japanese accounts that this kind of ware was not made after 1730, when there ensued a period of decay, but it is difficult to believe the statement that the manufacture was not revived till 1810. The picturesquely decorated bowls

PLATE XXVI. JAPANESE, KAGA WARE

and plates showing the greyish ground are probably later than those wholly covered with the green enamel, and it might be possible to trace the date of introduction of fresh means of decoration—gilding skilfully and boldly applied or the use of white enamel in relief, especially for the petals of flowers. Later, but still on ware of fine decorative effect, we find these white petals tinged with pink, and this apparently is the earliest appearance of the *rouge d'or* among Japanese enamels.

When did this new colour come in, and from what source? We may perhaps associate its first use with the wonderful period, early in the nineteenth century, of which we have already spoken, when all the restraints to which the Japanese artist had been so long subjected were removed, the crabbed critic with his tradition of Ming times was silenced, and a free rein at length given to native exuberance in the use of gay colours and naturalistic designs. But this was the end; as in the other arts, a period of decline set in before the middle of the century, a decline that was accelerated, but not first originated, by the throwing open of the country to European influences a few years later.

With the Kutani potter, the beginning of the end seems to have coincided with the introduction of the iron-red and gold decoration. This was brought about when the assistance of one of the Zengoro family, Zengoro the eleventh or Hozen, probably, was obtained from Kioto. At the same time the brilliant decoration in enamel colours was still carried on; often enough with happy effect, and this was kept up to quite a late period. In these latter days the use of a true white porcelain again became prevalent—indeed the materials are at the present day brought from Amakusa and other islands off the coast of Hizen.

There are two marks that have always been associated with the Kaga ware—first, the character for Kutani, the 'Nine Valleys,' the name of the little mountain

village where the ware was first made; second, the Chinese word *Fu* (Japanese *Fuku*), meaning 'prosperity' or 'wealth,' written in the seal character. We find this last mark painted in black on the back of the old pieces covered with a green glaze (PL. B. 23).

In our account of Japanese porcelain we have been hampered by the restrictions imposed by our subject. Among Japanese ceramic products there is a big middle class, what we have called kaolinic stoneware. Wares of this kind, when made in neighbouring kilns and differing in their decoration in no way from what may be classed as true porcelain—and this is the case in the pottery districts of Kaga and around Kioto—have naturally found their way within our limits. Other kinds quite as near to true porcelain, such as the picturesque fayence of Inuyama or many of the old Raku wares, have remained unmentioned. The temptation to overstep the line has been great, inasmuch as so many of the wares showing originality and real artistic merit lie distinctly on the further side.

We may say finally that a closer acquaintance with Japanese ceramics will confirm what may be observed in the case of other branches of Japanese art—in their painting, for example, and in their lacquer-ware. I mean the important part played by the critic, using that term in a wide sense, in restraining the native exuberance of the artist. The first tendency of the European connoisseur is to regret the hampering influence of Chinese tradition and the restrictions imposed upon all new developments. But when these influences have for a time been removed, the facile productiveness of the Japanese artist has always tended to land him in that pretty and over-decorated style that has found its way into middle-class drawing-rooms at home. We find a tendency to this unrestrained decoration and reckless association of colours creeping into favour long

PLATE XXVII. JAPANESE, KAGA WARE

before the opening of the country. Indeed, centuries ago at Kioto, and even perhaps in the old Nara days, a somewhat similar love of the trifling and effeminate may be recognised now and again. The services rendered by the severe traditions of the old Chinese schools of the Tang and Sung dynasties, and by the ascetic spirit of the *Cha-no-yu* in keeping within bounds the native tendency to luxuriant overgrowth, must not be overlooked. When these influences were removed, the arts soon ran to seed.

CHAPTER XIII

FROM EAST TO WEST

WE have now followed the steps by which the dependants and the neighbours of the 'Middle Kingdom' to the North, the East and the South, acquired the essentially Chinese art of the manufacture of porcelain. The next stage in our history brings us at one step to Europe. Before making this stride of more than a thousand leagues from Japan to Central Germany, it will be convenient to bring together some of the scattered references to the porcelain of China that have been laboriously disinterred from the works of the Arab and Christian writers of the Middle Ages, and to compare these statements with the scant account of the trade with Western lands to be found in the Chinese books of that time. We shall then trace rapidly the history of the stages by which the European nations became better acquainted with the porcelain of the Far East so as finally to master the secret of the manufacture.

For the earlier period we are dependent almost entirely upon Arab and Chinese sources. The love of the marvellous, the spirit of Sindbad the Sailor, has to be discounted in the first, and we have seen what reservations we have to make in accepting the statements of the latter.

There is no doubt that it is in the extraordinary development of trade that followed the wave of Arab

conquest in the seventh century that we must find the first possibilities of direct communication with the Far East. The great advance made by China in the early and palmy days of the Tang dynasty (618-907) no doubt opened the way for this intercourse. At that time China was in possession of a civilisation in many respects as advanced as that to be found either at Constantinople or at Bagdad.

As early as the year 700 of our era we find mention of a foreign settlement at Canton, so that that town can claim a longer record than any other Chinese port. But it was rather at Khanfu, as the Arabs called Hangchow (or rather its port), the Kinsai of Marco Polo, that, in the time of the next dynasty, the Sung (960-1279), the chief trade was carried on. Thus we find that Edrisi, who wrote a work on geography (*c.* 1153) for Roger, the Norman king of Sicily, is eloquent upon the riches of this port of Khanfu and the neighbouring town Susak (perhaps Suchow), 'where they make an unequalled kind of porcelain called *ghazar* by the Chinese.'

At this time, though many Arab merchants were settled at the ports of Canton, Zaitun, and Kinsai, the bulk of the commerce, it would seem, was carried on in the larger and stronger junks of the Chinese, and the best account that we have of the intercourse of China with foreign countries is to be found in the report on external trade, written by Chao Ju-kua, early in the thirteenth century.[1] This Chao was 'inspector of foreign shipping' at Chüan-chou Fu, a town on the coast of Fukien, which may perhaps be identified with the Zaitun of Marco Polo. In any case it was, at that time, the principal starting-point for foreign commerce. We have in his report a curious account of the trade with Bruni, on the north-west coast of Borneo, an

[1] This work is analysed by Dr. Hirth in his essay on *Ancient Chinese Porcelain* already referred to.

island with which the Chinese had already had some intercourse for several centuries, and 'green porcelain' is mentioned by him in the list of the merchandise there imported.

We need not dwell here on the well-known passion of the Dyaks of Borneo for celadon porcelain, and the big prices that they are prepared to give for fine old pieces (*Cf.* Bock, *The Head Hunters of Borneo*, p. 197 *seq.*). Of the specimens of celadon and other wares brought from this island we shall speak shortly. Modern travellers tell us that the larger jars, 'decorated with lizards and serpents' (probably the early smooth-skinned dragon of the Chinese), are preserved as heirlooms. Besides their medicinal value they are a complete protection from evil spirits for the house in which they are stored. From later Chinese writers (of the sixteenth century) we learn that these large jars were used in Borneo in place of coffins, and it is a significant fact that a similar mode of burial is still in use in Fukien, the district from which these vessels were exported, but not elsewhere in China.

To return to our Sung inspector of trade, as quoted by Dr. Hirth, Chao tells us that at the ports of Cambodja, of Annam, and of Java, the Chinese bartered both green and white porcelain against pepper and other local products. But at that time the great emporium for the Western trade was the port known to the Arabs as Sarbaya, the modern Palembang in the island of Sumatra. Here, or at Lambri, in the same island, the junks laid up for the winter, and in the spring the Chinese goods were carried further west to Quilon, on the Malabar coast of the Deccan, this time probably in Arab bottoms. The porcelain and the other Chinese exports were now distributed to the various lands with which the Arabs traded at that time. Chao Ju-kua, in this connection, mentions Guzerate, and an island that most probably can be

identified with Zanzibar. At any rate, at this last spot fragments of celadon porcelain have been discovered in recent days in association with Chinese 'cash' of the tenth and eleventh centuries.

There are scattered notices of this Sinico-Arab trade in the works of Arab geographers and travellers, from Edrisi to Ibn Batuta. The last writer, indeed, states that Chinese porcelain has found its way as far west as Morocco. It was a happy idea of the Director of the Ethnographical Museum, in the Zwinger at Dresden, to collect from every available quarter specimens of Chinese porcelain with the object of illustrating the wide distribution of the ware in early days, apart from and mostly previous to that brought about by European agencies. In this collection the heavy celadon or 'martabani' occupies, as we might expect, a prominent place, but the later enamelled wares, including even some special types that may be included under the *famille rose* of the eighteenth century, have been found both in Cairo and in Siam. Here we see large, heavy celadon plates, with thick glaze of pea-soup colour, from the Celebes, from Mindanoa and Luzon in the Philippine group, from Ceram and from other islands of the further Indies. On some of these plates the glaze covers the whole foot, and the unglazed ring, of deep red colour, on the upper surface, points to a primitive method of support in the kiln similar to that formerly in use in Siam. Other celadon plates (there are some huge ones, nearly a yard in diameter, in the collection), differing little from those found in these southern islands, came on the one hand from Cairo, and on the other from Korea and from Japan. From Korea there are also specimens of a curious crackle-ware with brownish glaze and a rough decoration in blue, and from Java a figure of Kwan-yin of a native type, covered with a pale, almost white, celadon glaze. In the same

collection we find plates roughly decorated with red and green enamels, a style of decoration which may perhaps be traced back to the earlier enamels of Ming times. Examples of this type of ware—some at least appear to be of porcelain—have been found both in the Philippines and in Ceylon. To come down to more recent times, pieces decorated with large peony-flowers, enamelled with an opaque white tinted by the *rouge d'or*, on a bright green ground of leaves, come from the Celebes, from Siam, and especially from Cairo.[1]

At Gotha, in the public museum, is a collection of Chinese porcelain brought together by the late Duke of Edinburgh. It is remarkable for the number of fine pieces of early celadon that it contains. As the unique collection of Lung-chuan, of Ko yao and of other Sung wares formed by Dr. Hirth, is now comprised in it, this is probably the most important assemblage of early Chinese porcelain in Europe. These two German collections, in the Zwinger at Dresden and at Gotha, complement and illustrate each other. But we have in England, scattered through our different museums and private collections, the materials for a series of at least equal interest—I mean as a commentary on the history of the spread of Chinese porcelain over the world, a subject to which we must now return.

In the early days of the Ming dynasty the commercial expeditions of the Chinese took on a more aggressive character. In the time of Yung-lo (1402-25) the eunuch Chêng-ho sailed with a fleet as

[1] Dr. Meyer, who brought this collection together, has always supported the theory that in early days no true porcelain was ever made except in China. In support of this he points to the specimens, including 'wasters,' from Sawankalok in Siam, in this collection, as being all of stoneware. We have seen (p. 173) that more recent excavations in the same neighbourhood have brought to light fragments of true porcelain of undoubted local manufacture. It is true, however, that most of the examples of celadon in the Dresden collection are of what we should call a kaolinic stoneware.

far as Ceylon, and exacted homage, so the Chinese records say, from the king of that island. In the next reign, that of Hsuan-te (1425-35), the same admiral conducted a more peaceful expedition to Hormus, at the entrance of the Persian Gulf, and in company with merchantmen from India, traded with the ports of the Red Sea, from Aden as far up as Jeddah. Both in Ceylon and at Jeddah (Tien-fong is perhaps rather Mecca itself) we find mention of green porcelain among the goods imported, and at this last port the Indian and Chinese merchants established their factories at the very centre of the Mohammedan world. (I follow the extracts from the Ming Annals given by Dr. Hirth.)

Still more important was the trade with Hormus and other ports of the Persian Gulf. We hear incidentally, at a later time, of a large fleet of Chinese junks at anchor in these waters. To us the Chinese trade with Persia is of special interest, for when, after a brief interval of Portuguese rule, Hormus fell into our hands, it was in a measure through the medium of the Persian ports, and of similar depôts and factories on the Indian coast (as, for instance, Surat) that we in England obtained our earliest specimens of Chinese porcelain.

And now we must take up another thread of our inquiry and return to the China of the thirteenth century, the China of Kublai Khan, the greatest of the Mongol rulers, as described in the book of the Venetian traveller Marco Polo. Here, in what is for us a classical passage, we find the first known instance of the use of the word porcelain. Marco Polo has been describing the wonders and riches of Zaitun, and he proceeds in his inconsequent way—we will quote first from the old French text, probably the earliest—'Et sachiez que pres de ceste cité de Çayton a une autre cité qui a nom Tiunguy, là où l'en fait

moult d'escuelles et de pourcelainnes qui sont moult belles: Et en nul autre port on n'en fait, fors que en cestuy; et en y a l'en moult bon marchie' (Pauthier, *Marco Polo*, chapter clvi.).

Translating from the later and more expanded Italian text, Colonel Yule renders the corresponding passage as follows: 'Let me tell you that there is in this province a town called Tyunju, where they make vessels of porcelain of all sizes, the finest that can be imagined. They make it nowhere but in this city, and thence it is exported all over the world. Here it is abundant and very cheap, insomuch that for a Venice groat you can buy three dishes so fine that you could not imagine better.' In the still later version of Ramusio, printed at Venice in 1579, we find one of the first mentions of the old fable that the porcelain earth was allowed to weather for two generations before being used. (See Yule, *Marco Polo*, vol. i. p. cxxii and vol. ii. pp. 186 and 190.)

Confining ourselves to the old French version, the point to bear in mind is the use of the word 'pourcelainnes' in this sense as one familiar to the reader and requiring no explanation. And yet in the two other passages of Marco Polo's book, where the word is found, it is used, and here too without further explanation, for the Cowry shells (*Cypræa*) that then, as now, took the place of money in certain markets of the East. There can be little doubt that the ware of which Marco Polo spoke was some kind of celadon, and Dr. Hirth's identification of Tingui with Lung-chuan is perhaps more plausible than the rival claims of Tekkwa and King-te-chen.

Ibn Batuta, the Arab traveller, who wrote nearly fifty years later, says 'porcelain is made nowhere in China except in the cities of Zaitun and Sinkalon (Canton).' In this statement he is of course quite wide of the mark. Like Marco Polo, however, he was

struck by the cheapness of the ware, and he mentions that it was exported as far as Maghreb (Morocco).

These 'moult belles pourcelainnes,' Marco Polo tells us, were to be found all over the world. He was probably speaking, as we have said, of a celadon ware, though it is possible that he may have seen the pure white translucent porcelain of Tingchou. Our first distinct notice of porcelain out of China is indeed of earlier date. In an Arab manuscript in the *Bibliothèque Nationale*, treating of the life and exploits of Saladin, we are told that in the year 1171 that great Emir forwarded from Cairo to his feudal lord Nureddin, Sultan of Damascus, a present of forty pieces of Chinese porcelain, doubtless found among the treasures of the recently conquered Fatimite caliphs of Egypt.[1] We have every reason to believe that this store of porcelain, found in the palace of the heretic caliphs of 'Babylon,' can have consisted of nothing else but the much prized 'martabani,' of which such wonderful stories are told by the Arab and Persian writers.

The high estimation in which this ware was held in Persia at a later date is well brought out in the following quotation from Chardin, who was in Persia in 1672: 'Everything in the king's palace is of massive gold or porcelain. There is a kind of green porcelain so precious that one dish alone is worth 500 crowns. They say that this porcelain detects poison by changing colour, but that is a fable.[2] Its price arises from its

[1] I suppose that Franks, who refers to this notice, was satisfied that the present really consisted of Chinese ware. Many slips have been made in quoting this passage, but I will only point out that Nureddin, who died in 1173, has no claim to the title of caliph.

[2] This belief, however, long lingered not only in the East, but even in Europe. According to some, if poison was present, the bowl lost its transparency; others state that the liquid would boil up in the centre, remaining clear round the edge. In a French comic poem, written as late as 1716, among other merits possessed by vessels of Chinese porcelain, it is claimed for them that—

'Ils font connaître les mystères
Des bouillons à la Brinvillière.'

beauty and the delicacy of its materials, which render it transparent, though above two crowns in thickness.' Again, in one of the tales of the *Arabian Nights*, we hear of six old slaves who bring in a salad in a huge basin of 'martabani' ware.

Fragments of porcelain, the fine white paste covered with a greyish green glaze, have been found in the rubbish-heaps both of Fostât or Old Cairo and of Rha (the Rhages of the book of Tobit), near Teheran, and as both these towns were abandoned at least as early as the thirteenth century, a corresponding age has been claimed for the pot-sherds found among the ruins.[1] We now know that a true celadon porcelain was made in Siam, and this ware, there is little doubt, was shipped from the port of Martabani.[2] But in spite of this fact, and of the evidence of the name by which the ware was known, by far the larger part of the porcelain used by the Arabs was probably a true Lung-chuan ware exported from the ports of the Chinese coast, Kinsai, Zaitun, and Canton.

The Memlook Sultans of Egypt encouraged commerce with the East. Makrisi tells us that Kelaun received an embassy from Ceylon. During the fourteenth century and later, the goods transhipped at Aden were carried to the ports on the west coast of the Red Sea and then brought overland to Assuan or to Koos, a town lower down the Nile, near to Koptos. Many of the large dishes now to be seen in the museums of France and Germany may have

[1] By far the greater number of the fragments are of local or at least of Saracenic origin, and many of them may be as old as the date mentioned in the text. But at Fostât, at all events, some of the pot-sherds are of a much later date. There are important collections of fragments from these rubbish-heaps both in the British Museum and at South Kensington.

[2] Professor Karabacek of Vienna quotes from the encyclopædist Hâdji Khalifa, who died in 1658: 'The precious magnificent celadon dishes seen in his time were manufactured and exported at Martabani, in Pegu.'

reached the West by this route, for among the presents that the 'Soldan' of Egypt sent to Lorenzo de' Medici in 1487, on the occasion of an embassy (in addition to some sheep with long ears and tails as big as their bodies), we find mention of 'vasi grandi porcellana mai più veduti simili ne meglio lavorati' (Marryat, p. 240, quoting a letter from Bibbiena to Clarice de' Medici). Before this, in 1447, Charles VII. of France is said to have received from the same source 'trois escuelles de pourcelaine de Sinant,' besides '*platz, tongues verdes*' (whatever they may be), and other vessels of the same material. Again, in 1487 porcelain is mentioned in the maritime laws of Barcelona among the exports from Egypt. In only one of these notices, however, is the Chinese origin of the porcelain expressly stated, so that in the other cases there remains a shadow of a doubt as to what kind of ware is in question. For we must remember that the word porcelain was at that time sometimes applied to Saracenic fayence. Indeed in the old French inventories quoted by the Marquis de Laborde, various kinds of shell-ware, such as frames inlaid with mother-of-pearl, are referred to as porcelain.

It is doubtful whether we can point to a single specimen of porcelain in our European collections whose history can be traced back as far as the year 1500, nor can any exception be made to this statement in favour of anything to be found in the Treasury of St. Mark at Venice. With the exception of one small doubtful piece, I have been unable to discover any specimen of porcelain in that collection. As for the tradition concerning the little plate at Dresden inlaid with garnets cut into facettes—that it was brought back from the East by a crusader—I am afraid that this must go the way of so many similar stories. I have had an opportunity of examining this often-quoted example of early Chinese porcelain, as well as a cup

similarly inlaid in the same collection, and I quite agree with Dr. Zimmermann, the Curator of the Museum, that the setting can hardly be earlier than the sixteenth century, and that there is nothing in the ware itself, a plain white Ting porcelain, to point to a great age.

There remains, then, the bowl of pale sea-green celadon, mounted in silver gilt, preserved at New College, Oxford. This is known as the cup of Archbishop Warham (1504-32): it is said to have been presented to the college by that prelate, and the early date is confirmed by the style of the mounting. It is at least a curious coincidence that this celadon cup, the *doyen*, it would seem, of all the Chinese porcelain in Europe, should prove to be a specimen of the ware first exported from China.[1]

M. de Laborde, in his glossary, quotes from the inventory of the goods of Margaret of Austria, the Regent of the Low Countries during the minority of her nephew, the future Emperor Charles V., the following items among others: Un beau grand pot de pourcelaine bleue à deux agneaux d'argent. Deux autres esguières d'une sorte de porcelayne bleue. Ung beau gobelet de porcelayne blanche, à couvercle, painct à l'entour de personnaiges d'hommes et femmes.'

An additional interest is given to this inventory of the possessions of the Regent Margaret when we remember that it was of her brother that the following story is told:—In the spring of 1506 Philip started from the Netherlands for Spain, along with his wife Joanna, to claim for the latter the crown of Castile, vacant by the death of the great Queen Isabella. Driven by a

[1] The little bowl of apple-green porcelain in the British Museum, 'garnished' with a mounting of the time of Henry VIII., has perhaps as long a European history. The two 'Trenchard' bowls (in spite of the later date of the mounting) probably came to England in 1506.

storm into Weymouth Harbour, the pair were entertained by Sir Thomas Trenchard, the High Sheriff of the county, at his house not far from Dorchester. On leaving, Philip. gave to his host some bowls of Oriental porcelain. Two of these bowls of blue and white ware remain in the possession of the representatives of the Trenchard family. One of them is set in a silver gilt mounting of about 1550, with a London hall-mark on the inside. On the outside of the bowl is a bold floral decoration, and inside some quaint archaic fish, similar to those on the Cheng-te bowl in the Salting collection. They have been lately described by Mr. Winthrop in Gulland's *Oriental China*, vol. ii.

We have now come to a time when a new channel was opened by which the porcelain and other produce of the Far East could reach Europe. In the year 1517 Fernando Perez D'Andrada sailed from Malacca to the roads of Canton, and the Portuguese not long after established some kind of understanding with the Chinese, which permitted them to trade at that port and at Ningpo. This arrangement, however, lasted but for a short time. Some aggressive proceedings on the part of a new admiral sent out from Portugal aroused the latent hostility of the Ming Government, and the newcomers were before long confined to that ambiguous position at Macao that they occupy to the present day. There does not seem to be any direct evidence that porcelain formed part of the merchandise that they at that time—I mean during the sixteenth century—sent back to Europe; but after the end of the century, when Portugal and her colonies were for a time absorbed in the vast empire ruled by Philip II. of Spain, a considerable amount of the Oriental ware reached the Peninsula by way of 'the Indies.' Specimens of this old porcelain, chiefly of the plain white that the Spanish have always preferred,

may still be found, it is said, in some of the royal palaces.

The Portuguese in some measure took the place of the Arabs, whose shipping they had driven out from the Indian seas, and it was now in their ships that the Chinese porcelain was carried to the markets of India and Persia. But by the end of the sixteenth century the Portuguese, now sailing under the Spanish flag, began to feel the rivalry of a new power that was destined before long to monopolise nearly the whole trade of the Far East. In 1604, three ships bearing an ambassador and his suite arrived at Canton. The Chinese were alarmed at the singular aspect of these new people, 'with blue eyes, red hair, and feet one cubit and two-tenths long.' The Dutch, however—for such these newcomers were—effected little by this embassy, and it is indeed difficult to understand, when we read of the troubled relations of foreign nations with the fast sinking Ming rulers in those stormy days, in what manner and by what route the porcelain that was now reaching the markets of India, Persia, and somewhat later, of Europe, in such large quantities, found its way out from China. After the establishment of the new Manchu dynasty in 1644, the three southern provinces, including the ports of the Canton river and of the Fukien coast, long remained in the hands of the native Chinese admiral or pirate, so well known to Europeans as Coxinga, and it was not till some years after the accession of Kang-he that the imperial authority was established in these parts, and the trade road re-opened with the newly rebuilt kilns of King-te-chen.[1]

[1] I think that it is not unlikely that during the time that King-te-chen lay waste, kilns may have been erected somewhere in the neighbourhood of the Canton river, and that from these kilns originated much of the rough ware, hastily decorated in blue, that reached India and Persia in such quantities at this time (*cf.* the statement of Raynal quoted on p. 166). We have spoken in the last chapter of the influence of these events upon the Japanese trade.

The English at that time had not much direct intercourse with China. What little reached us from that country seems to have been obtained rather by piracy than by trade. In the days of Elizabeth, when a Spanish merchantman or carrack was captured, next to the bullion there was nothing that was more eagerly sought for than porcelain, both that which might form part of the cargo and any pieces in use at the officers' table. As late as the year 1637, it was through the medium of the Portuguese that the bulk of the English trade with China was carried on. Meantime, however, we had established ourselves in the Persian Gulf, and in the year 1623 we assisted Shah Abbas in driving the Portuguese out of Hormus. We had at that time comparatively close relations with Persia, and there was more than one English adventurer in the service of the great Shah. There is some reason to believe that it was by way of our factories or depôts on the Persian Gulf (especially the new establishment at Gombroon,[1] on the mainland, opposite the island of Hormus or Ormuz), as well as by those on the coast of India, that the porcelain of China and Japan first reached England in any quantity. In these commercial relations we may no doubt find one of the causes of the confusion that so long existed with us between the wares of Persia, India, and China.

But Chinese porcelain, as well as Persian fayence, must have reached England by another route—by way of Venice—and this at a somewhat earlier date. To this connection of 'china-ware' with Venice there is frequent reference in our Elizabethan literature. Florio in his *Italian Dictionary* (1598) interprets the word 'china' as 'a Venus basin,' and 'china metal' is explained by Minsheu in his *Spanish Dialogues* (1599)

[1] I am referring, of course, to Stuart times. In the eighteenth century the so-called Gombroon ware was of Persian origin, and recognised as such in England.

as 'the fine dishes of earth painted such as are brought from Venice.' Here the reference probably is to Italian or Persian fayence—in fact the tendency seems rather to have been to use the word 'china' for these latter wares and to reserve the term 'purslane' or 'porcelaine' for the true porcelain of the Far East.

Indeed there is every likelihood that we may find the origin of our term 'china,' used vaguely for the better kinds of glazed ceramic wares,[1] in the Persian word *chini*, which has long been employed for Chinese porcelain and for the finer kinds of fayence, both in Persia and in India. The point to bear in mind is that with our ancestors this word had no direct connection with the Chinese empire, but rather with Venice and with Persia. On the other hand, the special ware known as 'purslane,' as we have said, was by them connected especially with that vague country known as 'the East Indies.'

At the New Year, 1587-88, Elizabeth received from Burleigh a porringer 'of white porselyn' garnished with gold, and from Mr. Robert Cecil 'a cup of grene pursselyne.' It was not until the beginning of the next century, apparently, that porcelain, decorated with blue under the glaze, was imported in any quantity. To this time we must assign the four pieces of this 'blue and white' ware (one bearing the mark of Wan-li) (PL. XXVIII.) long preserved at Burleigh House, the old home of the senior branch of the Cecil family (see p. 85).

By the middle of the seventeenth century Oriental porcelain had already become an important article of commerce. At that time by far the larger quantity was imported by the Dutch, and was distributed by them over France and Germany. There is, however, some reason to believe that the Portuguese continued to import certain classes of ware, but it is difficult to

[1] The word 'china' is used in this sense, I think, by no other European nation.

1

2

PLATE XXVIII. CHINESE

find any direct evidence of this commerce.[1] As for the English trade, porcelain is mentioned among the goods imported by the East India Company as early as 1631.

For the most part this porcelain exported from Canton or from Nagasaki was not carried directly to Europe, but found its way first to various intermediate *entrepôts* of trade: in the case of the Dutch, to Batavia; with us, to certain Indian ports, or perhaps to Gombroon. This was one cause of the strange names by which the products of China and Japan were known, and of the confusion between the wares of the two countries, which has only been cleared up of late years. We hear of Batavian porcelain, and of East Indian or *porcelaine des Indes*.[2] No doubt this ambiguity of origin was encouraged by the rival traders, who were not eager to make too public the source of their goods.

As to the composition of the 'purslayne' brought from the Indies, the wildest stories were current. Whether it was even of the same nature as other kinds of pottery was disputed. Even so well-informed a man as Sir Thomas Browne had his doubts. 'We are not thoroughly resolved,' he says, 'concerning porcellane or china dishes, that according to common belief they are made of earth.' The quaint story of the clay being preserved for long ages before it was fit for use, we find for the first time apparently in some of the late versions of Marco Polo's travels. From Marryat, who collected a wealth of quotations[3] referring to porcelain from writers of the sixteenth and seventeenth

[1] See, however, for the Portuguese merchants who sold porcelain in France, the note on page 230.

[2] The Abbé Raynal, writing about 1770, says that connoisseurs divide Oriental porcelain into six classes—'*truitée, vieille blanche, de Japon, de Chine, le Japon Chiné et la porcelaine des Indes.*'

[3] Marryat's extracts are unfortunately often carelessly quoted; nor is it easy in all cases to control them by reference to the originals.

centuries, we take as an example the following (it is from a book written by Guido Pancirolli, a learned jurisconsult and antiquary of Padua, who died in 1599):—'In former ages, porcelains were never seen. Now they are a certain mass composed of gypsum, bruised eggs, the shell of the marine locust [perhaps the *Langusta* or Mediterranean lobster], and other substances; and this, being well tempered and thickened, is hidden underground in a secret place, which the father points out to his children, etc.' He then goes on to speak of the transparency of this ware, and of its property of breaking when any poisonous substance was placed in it.

We must remember that by this time attempts had already been made in Italy, both in Tuscany and probably still earlier in Venice, to imitate the porcelain of China. These experiments were soon abandoned, but the more practical Dutch, not long after this time, succeeded in making with their enamelled earthenware an imitation of the finer Chinese blue and white, closer to the original, as far as external aspect is concerned, than anything that has been produced in Europe since that time in ware of any description. The name of Albregt de Keizer (*circa* 1661) it would seem is to be associated with these excellent copies. There are some brilliant specimens of this seventeenth century delft at South Kensington, both in the Keramic Gallery and in the Salting collection.

Early in the reign of Charles II., the fashion of drinking tea and chocolate became fashionable, if not general, in England. Coffee had been introduced somewhat earlier—it came from Turkey by way of Venice. Along with these new infusions came the demand for the little cups from which they were to be drunk, and for the pots in which to brew them. The form and fashion of these came to us not from China but from Venice, from Constantinople, and perhaps

ultimately from Persia. One consequence of this was that the confusion between the wares of the East and of the Far East became for the time even greater. In the drinking-song quoted on page 243, we find 'tea-cups and coffee' associated with 'the Turk and the Sophi,' while not a word is said of China.

At the same time larger pieces, *garnitures de cheminée*, *pots pourris*, and fish-bowls began to find a place in the decoration of a nobleman's house. Before the end of the century there came in a rage for quaint monsters and figures of Chinese gods, at first chiefly in white porcelain. Many such pieces may still be found on the mantels and in the china-closets of our country houses, but unfortunately we have in few cases any record of the date of acquisition or of the *provenance* of ware of this kind.

At Hampton Court there is a quantity of old china now well displayed in the rooms shown to the public. This is a collection that well repays a close examination. Let us see first what it does *not* contain. The *famille rose* is unrepresented. I do not think that the *rouge d'or* enamel is to be found on a single specimen. The 'Old Japan' or Imari is not found, at least not in characteristic specimens. On the other hand there are many interesting examples of Chinese enamelled ware which we may class with the five-colour group (the blue of course *under* the glaze). They are roughly painted with figures in Ming costume, but in these pieces the green is scarcely prominent enough to allow of our placing them among the *famille verte*. They belong rather to that class of late Wan-li or early Kang-he enamels which formed the starting-point of the earliest enamelled wares of Imari and Kutani. Of the three-colour glazes of the *demi grand feu*, I would point to two interesting vases, about twelve inches in height, with a mottled decoration of green and dark purple, and with yellow handles. There are quite a number

of large fish-bowls of blue and white, but these pieces are not remarkable either for colour or design. Of more interest are two cylindrical vases decorated, *sous couverte*, with blue and pale copper red, and a curious vase of Persian shape covered with flowers in white slip over a *café au lait* ground. Again, the plain white figures of Quanyin, with the 'Maintenon' coif, and in some cases with the boy patron of learning at the side, are here as abundant relatively as at Dresden, and there is finally a well-executed figure of a Buddhist ascetic in white biscuit. Unless it be by the blue and white, Japan is represented solely by the 'Kakiyemon' enamelled ware, with the blue *over the glaze*.

But we must not pass over the little glazed cabinet filled with quaint pieces of Chinese porcelain. The contents of this cabinet have, it is said, remained untouched since the day, more than two hundred years ago, when they were arranged by Queen Mary. Among many curious pieces on its shelves may be seen two buffaloes of a pale celadon ware, four vases of 'hookah-base' form, with strange-shaped spouts, and some censers in the form of kilins.

The general impression, we may finally say, given by a somewhat close inspection of the porcelain at Hampton Court, confirms the little we know of the date of its origin. It represents a period anterior to the great renaissance at King-te-chen at the end of the seventeenth century, but only just anterior to that time, and it is the absence of the finer and more brilliant wares made subsequently to this renaissance, examples of which we are accustomed to see in our modern collections, that gives a certain air of poverty to this porcelain collected by our ancestors.

In some of the palaces and castles of Germany may still be seen collections of china made in the seventeenth and eighteenth centuries, crowded together in the porcelain cabinet. Of these the best known, perhaps, is that

at the 'Favorite,' near Baden, but there are others in the castle of the Waldstein family at Dux in Bohemia, and in Hungary in the castle of Prince Esterhazy. Many of these collections have remained unaltered since the time when they were first brought together, and it is in this fact that their principal interest lies.

These china-cabinets are, of course, all eclipsed by the vast collection brought together, at the beginning of the eighteenth century, by Augustus the Strong, Elector of Saxony and (at intervals) King of Poland. But this collection has undergone many vicissitudes since the time when it was first established in the handsome palace in the Neustadt at Dresden. It escaped, indeed, with little damage from the Prussian cannons during the Seven Years' War; at the end of the century, however, it was removed to a gloomy basement, but so carelessly was this done that we hear of whole chests packed with broken fragments. In this ill-arranged and dark room the collection remained for nearly a century, until at last it has found a home in the well-lit galleries of the Johanneum. Here it is now seen to full advantage, thanks to an arrangement which combines historical sequence with a regard to general effect.

Augustus the Strong died in 1733, and it is doubtful whether his successor, August II. (August III. of Poland), who was above all a collector of pictures, added to the collection.[1] There were, it would seem, some examples of porcelain in the electoral collection at a much earlier date.[2] In an inventory of 1640 several pieces of porce-

[1] August II. certainly bought a collection of porcelain from the Bassetouche family for 6750 thalers. It would be interesting to know of what wares this collection consisted. The only further additions until quite recent times have been to the European department.

[2] The tradition of the 'dinner-service' made in China for Charles V., and presented by him to Moritz of Saxony (or, as others say, captured from him by that prince), belongs to the same category of stories as that of the crusader's cup. No such commission as this was possible at so early a date, and there is nothing in the Dresden collection that could be connected with such a service.

lain are mentioned, and these are said to have been presented by the *Herzog von Florentz* in the year 1590. Among them (they cannot now be identified) we find a vase of porcelain (*ein Pokal von Porcellana*), blue and red with gilding, in the form of a crab; another in the form of a dragon, coloured green and blue; a lantern of porcelain, green and gold, adorned at the top with a standing figure; a small 'pokal,' gilt and painted with all kinds of colours; and finally some large eight-sided dishes decorated with blue. We should have expected to find some examples of the new Medici porcelain along with these, but in the inventory in question there is no mention of anything of the kind.

Augustus the Strong obtained most of his porcelain from Dutch dealers—a certain Le Roy at Amsterdam is specially mentioned. Already in 1709 we find him lending eight statuettes of white Chinese ware to Böttger, then engaged with his experiments on the Königstein. In the year 1717 he received from the King of Prussia nearly a hundred important vases and dishes. In return for these, it is said, the king obtained a regiment (or company) of tall dragoons, but this part of the bargain is not mentioned in the official receipt for the porcelain, which has been preserved.

I have more than once referred to individual specimens in this famous collection, and I shall not attempt to describe it now. Suffice to say that the general impression given is that it is of a somewhat later date than that at Hampton Court. Apart from a few early pieces which have been already mentioned, and from some specimens of the *famille rose* (and on these the new *rouge d'or* is for the most part sparingly and, as it were, tentatively applied), the coloured enamel ware in the Dresden collection belongs in the bulk to the *famille verte*, and upon intrinsic evidence might be attributed to the later years of Kang-he and to the reign of his successor Yung-ching, say from 1690 to

1730. On the Japanese side, we notice a number of dishes and vases in blue and white, rather in the style of the later Ming ware exported to India and Persia, a few choice specimens of the enamelled 'Kakiyemon,' and then the vast series of 'Old Japan' or Imari porcelain—plates, vases, and bowls, many of large size. Much of this last class was made to order, and this part reflects the bad taste of the day. We find tall vases 'adorned' with figures and flowers modelled in full relief in a kind of stucco and gaudily painted with some oil medium or varnish. Some are converted into cages for birds or squirrels by an external railing of brass rods.

With the exception of a few fine *garnitures* in blue and white in ''t Huis ten Bosch' at the Hague, there appear to be no public collections in Holland dating from the eighteenth century. But in spite of the repeated razzias of dealers, both native and foreign, many old families still retain collections of Chinese porcelain (of blue and white especially), some of which may date from the latter part of the seventeenth century, and many a rough-looking farmer, in country districts, prides himself on the china-cabinet that he has inherited from his ancestors.

Francis I. of France and his son Henri II. were, as is well known, great collectors of works of art, and their collections at Fontainebleau may be regarded as the foundation of the national museums of France. The Rev. Père Dan, who described these collections at a later date, in his *Trésors des Merveilles de Fontainebleau* (1640) says—'La étoient aussi des vases et vaisselles en porcelaines de la Chine,' and in an eighteenth century notice we hear of a 'vase de porcelaine de première qualité ancienne de la Chine,' which is said to have come from the collection of Sully, the minister of Henri IV. In the second half of the seventeenth century, at the great yearly fairs held in

the neighbourhood of Paris, Portuguese travelling merchants set up their stalls for the sale of *les besognes de Chine*.[1] In 1678 the Duchess of Cleveland's porcelain was sold at the fair of St. Laurent. The *Mercure* of the day gives a list of the figures and mounted pieces. Louis XIV., we are told, was surprised at the knowledge of Oriental porcelain shown by James II.

At the end of the seventeenth century it became the fashion among the *grands Seigneurs* of the court of Louis XIV. to collect the *porcelaine des Indes*, the Dauphin and the Duke of Orleans leading the way, and through the agency of the short-lived *Compagnie de la Chine*[2] (1685-1719) the latter prince was able to obtain from the East vases decorated with his arms,[3] while of the Dauphin we hear that he arranged his collection of blue and white in cabinets constructed by the famous ebonist Boule. Unfortunately the gallery at Versailles where they were placed was burned down soon afterwards (Du Sartel, *La Porcelaine de la Chine*, p. 121). The porcelain of these princely collectors was sold at a later time, and most of it passed into the hands of the Vicomte de Fonspertuis; it was again dispersed when the works of art in that famous collection were sold by auction in 1747. The catalogue on this occasion was prepared by Gersaint,[4] the great dealer of the day, for whose shop on the Pont Notre-Dame Watteau painted his famous *Enseigne*. The notes in this catalogue are of some interest, in that they are,

[1] 'Menez-moi chez les Portugais
Nous y verrons à peu de frais
Des marchandises de la Chine
. . . de la porcelaine fine,' etc.—Scarron, *Paris Burlesque*.

[2] In 1689 Madame de Sévigné notes the quantity of Oriental porcelain imported at L'Orient.

[3] Are we to identify these with some huge Imari vases, now in the Louvre, with coats of arms bearing the French lilies and the label of Orleans? Some similar vases, with the same arms, have lately been seen in dealers' shops in London.

[4] The catalogues of Gersaint and of some other early French collections may be found at South Kensington.

perhaps, the earliest attempt, at least from a Western point of view, at a critical description of Oriental porcelain. We can only call attention to the remarks of Gersaint on the new enamel colours, which in opposition to the blue and white '*on voit seulement depuis quelques années*'; on the white ware with its '*ton velouté, doux et mat*,' which he tells us Spanish collectors prefer to all others, and on the figures, animals, and ornaments which the Dutch '*souvent mal à propos*' painted over the beautiful white ware of China. Gersaint ridicules also the fashion that will have nothing to say to any piece without the brown line upon the lip or edge, so characteristic of the porcelain imported about this time, and finally he calls attention to the excellent imitation of the 'Ancien Japon,' made *some time since* at Dresden. A few specimens of this Saxon ware are the only examples of European pottery in this extensive and varied collection.

Some twenty years later the collections of another friend and patron of Watteau, M. de Jullienne, were sold by auction in the *Salon Carré* of the Louvre, and a detailed catalogue of the Oriental ware was drawn up by the dealer Julliot. But for a more detailed account of the French collections and collectors of the eighteenth century, we must refer the reader to the chapter on this subject in M. Du Sartel's already quoted work.

In the lengthy treatise of the Abbé Raynal on the history of the *Commerce des Européens dans les Deux Indes*, there is an interesting section treating of the porcelain of China and Japan, and of the relation of these Oriental wares to the porcelain of Saxony and France. The work was first published in 1770, but the remarks on porcelain were probably written several years earlier. We have already noticed the six classes into which he divides the wares imported from the East. We can only note here that Raynal

distinguishes the two classes of *porcelaine blanche*—one of creamy tint, and the other cold and bluish. This ware, he says, was imitated at Saint-Cloud, but with 'frit' and lead glaze. His sympathies are all for the true porcelain of Dresden, and for the ware lately made in France by the Count Lauraguais.

We have attempted in this chapter, perhaps at too great a length for a work of this kind, to follow the steps by which the knowledge and appreciation of Oriental porcelain spread gradually through the West. It will be our next task to show, as briefly as possible, how on the ground thus prepared there arose on all sides a desire to imitate this beautiful ware.

CHAPTER XIV

THE FIRST ATTEMPTS AT IMITATION IN EUROPE

WHAT, then, were the wares with which the porcelain of the Far East came into competition, when during the course of the seventeenth century it reached Europe in ever increasing quantity? It was not the ordinary lead-glazed pottery, or the salt-glazed stoneware in common use, that felt this competition. Crockery of this sort would always be protected by its cheapness. The rivalry was rather with the more artistic ware found on the tables of the richer sort of people, much of it made for ornament only. Now at this time, ware of this latter kind all came under the class of *enamelled fayence*—earthenware, that is, whose dull surface was rendered bright and shining by a coating of stanniferous enamel; on this artificial surface the decoration, often pre-eminent in artistic merit, was painted. It is not our business here to show how this great ceramic family of stanniferous enamelled ware, which had now spread over Europe, had its origin in the nearer or Saracenic East, just as the porcelain, which in a measure was destined to replace it, can all be traced back to a Chinese source. Suffice to say that, starting from the Moorish potteries of Spain, this enamelled fayence gradually replaced the old lead-glazed slip ware of the Italian *quattrocento*, and in the sixteenth century was carried by Italian workmen to France,

where important centres of manufacture were established at Rouen and at Nevers.

But it was rather the fayence of Delft, a ware of essentially the same class as the last, and one which, during the seventeenth century, was pushing its way into the markets of France and of England, that first felt the competition of the porcelain now imported from the Far East. The fact is that all these enamelled wares suffered from one great defect. It was not so much their lack of translucency or the softness of their paste that was at fault, but rather the fact that they made pretence to be something better than they really were 'at heart.' Compared to porcelain, they are as plated ware to real silver, and time and wear are apt only too soon to reveal the base nature of their body. Wherever the enamel is chipped off, the dirt lodges, and greasy matter finds its way into the porous paste, causing a wide spreading stain. This is a practical, and, we may also add, a hygienic defect, that is now sometimes forgotten, the more so as nowadays our common table ware is free from this fault, and resembles fine porcelain in so far that the white, compact body is covered by nothing but the transparent glaze. In fact, as far as European experience is concerned, we may say, broadly, that the merits of porcelain compared with those of fayence are rather of a practical than of an artistic nature.[1]

It will be convenient to divide the history of European porcelain into two periods. The first, with which we are alone concerned in this chapter, deals with a time of isolated and tentative experiments. We are concerned in Italy with the experiments of the Venetian alchemists which form an introduction to the porcelain made by the Tuscan Grand-Duke; in

[1] Passeri, writing in 1752 in favour of the then neglected majolica, claims that 'la parte brutale dell' uomo sarà a favor delle porcellane, ma l'intellettuale e raziocinativa giudicherà a favor delle nostre majoliche.'

England with the early researches of Dr. Dwight and others; and finally, in France with the more successful efforts of the potters of Rouen and Saint-Cloud. The second period opens with the great discovery of Böttger at the beginning of the eighteenth century. The porcelain made subsequent to this may be divided conveniently into three groups: (1) the true porcelain of Germany; (2) the artificial soft paste of France; and (3) the so-called natural soft paste of England. These are the most important types; and other wares such as the 'mixed or hybrid pastes' of Italy and Spain, and the hard, true porcelains of England and France, can be most conveniently treated in connection with the second and third divisions.

EARLY VENETIAN PORCELAIN.—Of all the cities of Europe we might, on theoretical grounds, expect to find in Venice the place above all others where the question of the composition of porcelain would at an early date attract attention, and indeed, the evidence brought to light by the Baron Davillier (*Les Origines de la Porcelaine en Europe*, 1882) and by the late Sir William Drake (*Notes on Venetian Ceramics*, London, 1868, privately printed) fully proves that more than one alchemist or 'arcanist' of that city, in one case as early as the fifteenth century, produced specimens worthy to be called '*porcellane transparente e vaghissime*,' and this by contemporaries who had some opportunity of seeing the real porcelain of China.[1]

This 'transparent and beautiful porcelain' was made in 1470 by Master Antonio, the alchemist, at his kiln by San Simeon, and the writer of a notice that has been preserved sends two specimens of this ware to his friend in Padua. Again, in 1518 we hear

[1] Recent researches in the archives of Venice have proved that Oriental porcelain was comparatively abundant in Venice at the beginning of the sixteenth century. Dr. Ludwig has shown me extracts from the inventory of the property of a rich 'cittadino' who died in 1526, in which can be distinguished plain white, blue and white, and porcelain decorated with red, green, and gold.

of 'a new artifice not known before in this illustrious city, to make all kinds of porcelain like to the transparent wares of the Levant'; and a year later the ambassador of the Duke Alfonso writes to his master at Ferrara, sending him specimens of the *porcellana ficta* made by a certain Caterino Zen, whom he has persuaded to emigrate to the latter city.

There cannot be the slightest doubt that in all these instances the writers are referring to attempts at the manufacture of something resembling, in its transparency at least, the porcelain of China. There is no question of any confusion with the majolica of the day, with whose properties these men were well acquainted, and we may therefore reasonably regard the Venetian 'archimisti' as the first in Europe to make a soft-paste porcelain. As in the case of later experimenters, translucency, rather than hardness or refractory qualities, was the point aimed at; and from the few hints we get as to the substances employed, we may infer that these old 'archimisti' started with the idea of combining the properties of glass and of fayence by mixing a 'frit,' or glassy element, with various kinds of pure white clay.

It is unfortunately true that we can point to no single existing specimen of Italian porcelain that can safely be referred to so early a date; but it must at the same time be remembered that it was only in the year 1857 that the first piece of Medici porcelain was identified by Signor Foresi, and that as late as 1859 a flask-shaped vase of this ware was sold at the Hôtel Drouot as a specimen of Japanese porcelain!

MEDICI PORCELAIN. — The first mention of this now well-known ware is probably to be found in Vasari's *Lives of the Painters*. It is in his account of Bernardo Buontalenti, painter, sculptor, architect, and mechanical genius, who, in all these capacities,

1

2

PLATE XXIX. MEDICI, BLUE AND WHITE

was in great favour with Cosmo, the first Grand-Duke of Tuscany, and still more with his son Francesco. 'Bernardo,' says Vasari, who was a contemporary, 'applies himself to everything, as may be seen by the vases of porcelain which he has made in so short a time—vases which have all the perfection of the most ancient and the most perfect.' He could make objects of all kinds in porcelain. 'Of all these things our prince [Francesco the Grand-Duke] possesses the methods of manufacture.'

Francesco Maria, the second Grand-Duke of Tuscany, was neither a good prince nor a faithful husband. He was, however, by nature an enthusiastic and patient experimenter, and a chemist after the manner of the day. Soon after his accession, in 1576, the Venetian envoy writes of him—I abbreviate here and there: 'He has found the way to make the porcelain of India; he has equalled them in transparence, in lightness, and in delicacy. With the help of a Levantine he worked for more than ten years, spoiling thousands of pieces, before producing perfect work. He passes his whole day in his *casino* [in the Boboli Gardens] surrounded by alembics and filters, making, among other things, false jewels, and fireworks.'

We learn also, from a contemporary manuscript, that the paste of this porcelain was formed by mixing certain white earths from Siena and from Vicenza with a frit, itself made from pounded rock crystal fused with soda and glassmakers' sand. The Vicenza clay, at all events, was probably of a kaolinic nature. After shaping on the wheel and drying, the decoration was painted on the raw paste, and the vessel subjected to a preliminary firing; the plumbiferous glaze was then applied to the biscuit. This Medici ware is decorated for the most part with cobalt blue alone, but occasionally a little purple, and still more rarely other colours are added. The design is made up of sprigs of con-

ventionalised flowers and leaves connected by fine stalks, suggesting, on the whole, a Persian rather than a Chinese influence. In a few cases we find the renaissance arabesques (or, more properly, grotesques) of the time combined with masks in relief. The usual mark is a hasty outline of the dome of the Cathedral of Florence, and below it the letter F; on a few pieces, those especially which are decorated with the grotesques, we find the six roundels, or 'palle,' of the Medici, surmounted by the ducal coronet. A few pieces are dated. The earliest date that has been discovered—1581—is on a bottle of square section, rudely painted, under a crackle glaze, with the arms of Spain.

As might be expected in the case of an experimental ware of amateurish origin, the extant pieces differ much in technical merit. Some are heavily moulded, with a rough decoration of dark blue (I refer to some pieces now in the Louvre); while on others, as on the fine but damaged bowl at South Kensington, a delicate design is carefully painted (PL. XXX.). The ground, however, of this Medici porcelain is seldom of a pure white, and the colours have a tendency to run. Now that the specimens from the Davillier and Rothschild collections have found their way into the Louvre, this ware is best represented in that gallery. There are, however, several pieces at Sèvres, and some good examples at South Kensington. The later history of this ware is obscure. The kilns appear to have been removed to Pisa, and their existence cannot be traced later than 1620.

ROUEN PORCELAIN.—For a period of two generations and more after this date it would seem that little was attempted. The vague assertions found in patents taken out during this time in England and in France are of slight value for us, for the claim is only made to an *imitation* of the Eastern ware, and such an expression might apply to many kinds of enamelled fayence.

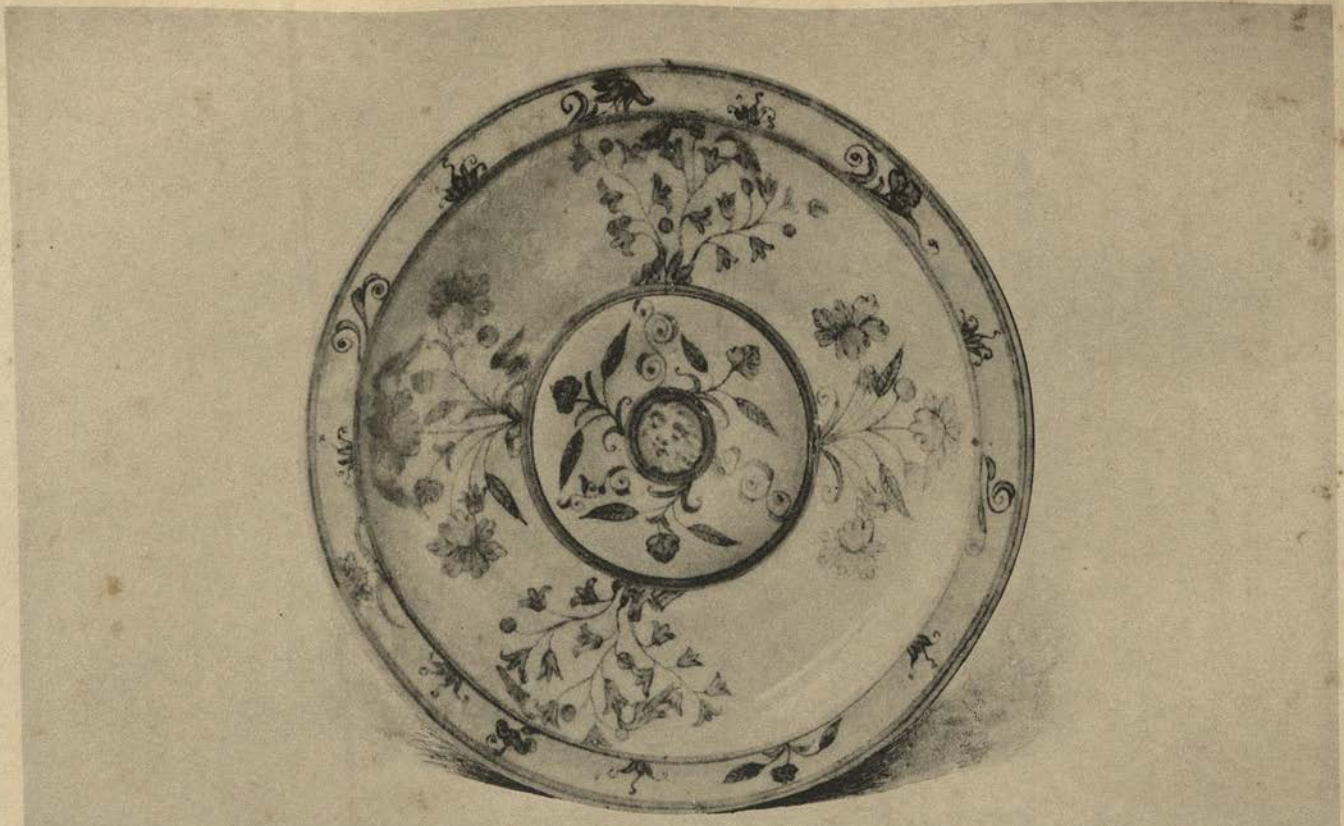


PLATE XXX. MEDICI, BLUE AND WHITE

In France,[1] Claude Reverend, in 1664, is authorised to '*contrefaire la porcelaine à la façon des Indes*.' A more serious interest attaches to the letters-patent granted in 1673 to Louis Poterat of Rouen. This Poterat was a man of some position; he belonged to a family that had long been connected with the manufacture of enamelled fayence at St. Sever, near Rouen. In the diploma of 1673 facilities are granted him by the king for making vessels of porcelain similar to those of China by means of the secret process that he had discovered for manufacturing '*la véritable porcelaine de la Chine*.' There exist certain little pieces of soft-paste porcelain, sparely decorated with arabesques and *lambrequins* in blue *sous couverte*, in the style of Louis XIV., and marked with the letters A. P. surmounted by a small star.[2] These are now generally classed as Rouen ware of the time of Poterat; in that case, we must see in them the earliest specimens of the French family of *porcelaines tendres*. We have seen specimens at Sèvres and at Dresden, in both cases little cylindrical boxes divided into compartments. A similarly decorated cup, of very translucent ware, in the Fitzhenry collection, is also attributed to Rouen.

There were probably at this time and later many others, *arcanistes* or practical potters, working at the problem in France. M. Vogt quotes, from the *Comptes des Bâtiments du Roi* for 1682, two singular payments for the transport of 'terre de porcelaine' from Le Havre to Rouen and thence to Paris. This porcelain earth had, it is stated, been previously shipped to Civita Vecchia. It

[1] It is quite possible that Palissy may have tried his hand at this problem. M. Solon has suggested that in the many years' labour at Saintes (when attempting especially to imitate 'the cup with white enamel') Palissy was really seeking to make porcelain.

[2] I take the following from the excellent catalogue of the Ceramic Museum at Limoges, by E. Garnier: '1125. *Pot à Pommade, de forme cylindrique godronné à la partie inférieure et décoré en bleu d'une bande de lambrequins. Marque* A.P.' Some other small pieces in this museum are classed as Rouen porcelain.

has been suggested that this might refer to a cargo of kaolin sent from the East (*La Porcelaine*, p. 34).

In 1695 the king granted to the Chicoineau family the privilege of making porcelain, by means of a secret process, reserving only the right previously granted to Poterat of Rouen.

With the establishment, however, of the Saint-Cloud kilns we pass out of the stage of tentative experiment, and the porcelain of Saint-Cloud forms the proper introduction to the soft-paste wares of France.

EARLY EXPERIMENTS IN ENGLAND.—The potter's art was at a very low ebb in England in the seventeenth century. The Dutch with their Delft ware had taken up a position comparable to that held by our Staffordshire potters a century and a half later. They supplied us for many years with the ordinary crockery in use among the middle classes (indeed, in parts of Ireland such ware is still known as 'delf'). From the scattered local potteries were produced only the roughest kinds of earthenware. But in this rude ware we see at times a certain barbaric, almost Oriental feeling for colour and decoration, giving more promise of artistic possibilities than we can find in the tame imitative work of the eighteenth century porcelain maker.

Quite early in the seventeenth century, however, certainly by the time of Charles I., pottery works were established by the banks of the Thames at Lambeth and elsewhere, where successful imitations of Delft were made, probably with the assistance of Dutch workmen. Not far off, at Fulham, Dr. John Dwight experimented upon various clays and glazes, in the reign of Charles II. His is the earliest name that occurs in the history of English ceramics. In the letters-patent granted to him in 1671, he claims that 'at his own proper costs and charges he hath invented and set up at Fulham . . . several new manufactories.' Not only was he prepared to deal with 'the misterie of the stoneware vulgarly called

Cologne ware,' but he also lays claim to 'the mysterie of transparent earthenware, commonly knowne by the name of porcelaine or china, and Persian ware.' This claim is made even more definitely by his friend Dr. Plot, in the *History of Oxfordshire*, which he published in 1677. Dr. Dwight, he tells us, 'hath found ways to make an earth *white and transparent as porcelane*, and not distinguishable from it by the eye or by experiments which have been purposely made to try wherein they disagree.'

We may compare this claim with the similar statements made about the same time in the petitions of Poterat and others. In neither case is there any sign of an acquaintance with the Chinese *materials*. In France the aim was to make something that should combine the properties of earthenware and glass; while in the case of Dr. Dwight's ware, hardness and infusibility were the points sought for.

The portrait busts and statuettes in the British Museum, and a famous piece at South Kensington, are all that remain of Dr. Dwight's wares. These were until lately in the hands of his descendants, and are, therefore, thoroughly authenticated. In the former collection are two figures, a sportsman and a girl with two lambs, which in spirit and sharpness of execution compare favourably with our later imitations of Meissen porcelain in soft paste. A thin, apparently non-plumbiferous glaze covers a white body, which is undoubtedly of great hardness and possibly just translucent ('approaching in some cases to translucency,' says the writer of the 'Jermyn Street' Catalogue). Unfortunately there has survived nothing to illustrate his imitations of Chinese and Persian ware. Dr. Dwight

[1] Professor Church allows that 'the substance of some of these statuettes is distinctly porcellanous.' He found, however, in a fragment of this ware as much as 79·5 per cent. of silica, and only 12·5 per cent. of alumina (*Cantor Lectures*, 1881).

was a man of some social position, and a Master of Arts of Christ Church, Oxford. The very considerable merit of his stoneware figures (and we may add, the pathetic interest attaching to the little figure of a dead child, at South Kensington, inscribed 'Lydia Dwight, dyed March 3rd, 1673') have established his position as the father of English ceramics, and on this ground he has found a place along with Duesbury and Wedgwood in the *Dictionary of National Biography*. For us his stoneware has a special interest. It is perhaps the only ceramic ware in existence that has so many of the characteristics of true porcelain—its hardness, its resistance to high temperatures, and to some extent also its translucency and whiteness of paste—but which in origin and chemical composition differs so entirely from the normal type.

Dr. Place of York was a contemporary of Dwight; he devoted much time to experiments on various kinds of clay. Although he has some claim to rank as an artistic potter, I do not think that there is any proof that he ever made porcelain of either hard or soft paste.

It is certainly remarkable that during the following fifty years and more we hear nothing in England of any attempt to manufacture porcelain, nor is there any patent or contemporary notice bearing on the subject during the interval between Dr. Dwight's specification of 1684 and the date of Frye's first patent. A claim to make porcelain by working up the ground fragments of Oriental ware with some gummy materials is perhaps the only exception.

But in England, as elsewhere, the 'ware of the Indies' was coming more and more into favour, and its partial victory over foreign and native stoneware and pottery is, as we said above, closely connected with the increasing popularity of tea and coffee. Sack and claret were still served in bottles of Delft ware, and beer in stoneware jugs and tankards. A certain suspicion of effeminacy

and degeneracy came to be associated both with tea and coffee, and with the ware in which they were served.[1] Even now, any ridicule to which the china-collector is exposed is generally associated with a teapot.

We have in this chapter traced the early attempts made in Italy, as well as those in France and England, to imitate the porcelain of the Far East. We must now turn aside to Saxony, where, at the dawn of the eighteenth century, the problem was solved by the genius of a poor chemist's assistant. We will then run rapidly through the many centres where hard-paste porcelain was made in Germany, before returning to the soft-paste wares of England and France.

[1] This feeling is well expressed in a contemporary drinking-song :—

'To drink is a Christian diversion
Unfit for your Turk or your Persian;
Let Mohammedan fools live by heathenish rules,
And get drunk over tea-cups and coffee,
But let British lads sing, give a rouse for the king,
A fig for your Turk and your Sophi.'

The punch-bowl of porcelain, however, came to the rescue about this time.

CHAPTER XV

THE HARD-PASTE PORCELAIN OF GERMANY

BÖTTGER AND THE PORCELAIN OF MEISSEN

WE have already more than once come across the famous Elector of Saxony, who found time, between his Polish wars and his innumerable amours, to bring together the nucleus, at least, of more than one of the great collections that have since his time attracted visitors to Dresden. In the historical collections of the Johanneum and in the Grüne Gewölbe, we find his name associated with many things of great beauty—arms and armour, silver plate and jewellery; but still, even after making every allowance for the strange taste of the time, the general impression of the man which we get from the objects brought together by him is not exactly that of a refined amateur. In fact, the German phase of the school that had its origin in the Rome of Bernini and in the Versailles of Louis XIV. found in the court of Augustus the Strong its true home. Nowhere else can we find more characteristic examples of that mixture of pomposity and childishness, that absence of all feeling for purity of line, which distinguishes the German 'rococo,' than in these collections and in the buildings that hold them.

Now, it was under the direct patronage of this prince that the manufacture of porcelain was first established in Europe, and what we may call the

taint of its original home has hung about the ware ever since. Of the porcelain of Europe as a whole—and this is especially true of the earlier and more interesting period—we may say that it belongs to the rococo school, tempered now and again by a more or less ill-understood imitation of Chinese and Japanese shapes and designs.

Augustus collected works of art of nearly every kind, with the important exception, indeed, of pictures and sculpture—these branches were at this time comparatively neglected. But his heart was set, above all, upon gathering to his new palace in the Neustadt, every fine specimen of the Oriental porcelain that reached Europe. What more natural than that he should be seized with the ambition of himself producing in his own capital something that would rival the wares of China and Japan? No one had better opportunities—if not himself in direct communication with the East, his agents were in a position to glean and to bring to him whatever meagre information about the manufacture of porcelain might reach Europe. His court was a Catholic centre, and he must have taken interest in the accounts of the industries of China sent home by the Jesuit missionaries. The first of the famous letters of the Père D'Entrecolles on the porcelain of King-te-chen is indeed of just too late a date for us to think of it in this connection. By that time (1712) Böttger was already making true porcelain. But what would seem more probable than that other private letters, with valuable information about the manufacture in which the Elector took so great an interest, may have reached him a few years earlier? The Père D'Entrecolles, we know, had already for several years previous to 1709 (the approximate date of Böttger's discovery) been living at Juchou, in the neighbourhood of King-te-chen.

When we consider the rapidity with which Böttger's experiments were brought to a successful issue, and compare this with the long and fruitless research in other countries, it is impossible to resist a suspicion of some such infiltration from Chinese sources, and this suspicion is enhanced by the somewhat suspicious story of Böttger's career. But, on the other hand, no confirmation has, so far, been found for any such theory. On the contrary, I understand that researches made of late in the State archives of Saxony have rather tended to show that some injustice has been done to Böttger in the common tradition; that we must look upon him as a man of considerable scientific attainments for his age and as a born experimenter, and it must also be remembered that at that time no great distinction was made between the chemist and the alchemist.

Johann Friedrich Böttger was born in the year 1685 at Schleiz, in the Voigtland, where his father had a charge connected with a local mint. He was early apprenticed to an apothecary at Berlin, and here he was initiated into the secrets of alchemy by no less a master—so at least the story goes—than the Greek monk Lascaris, a man who is mentioned with admiration by Leibnitz, and who is claimed as one of the 'five adepts.' In 1701 Böttger fled from Berlin—it is not quite clear for what reason—and placed himself under the protection of the Elector of Saxony. At Dresden and, later on, the rock fortress of the Königstein, he continued his search for the philosopher's stone, and about this time, probably in conjunction with the mathematician and physicist Walther von Tschirnhaus, began making experiments upon clay—in search, at first at least, of a refractory material for his crucibles. Tschirnhaus had already been occupied with improvements in the manufacture of glass in Saxony, and as early as

the year 1699 had made attempts to imitate Chinese porcelain.[1]

In spite of an unsuccessful attempt at flight we find Böttger, in the years 1705 to 1707, established in a laboratory in the old castle of Meissen. Here, after another effort to escape, for which he narrowly missed being hanged—at any rate so we are told—Böttger, when experimenting on some red fireclay from the neighbourhood of Okrilla, fell upon the famous red ware that resembles so closely the Chinese 'boccaro.' This was in 1707. The next year Tschirnhaus died, and by 1709, if we are to trust the statement of Steinbrück, the brother-in-law of Böttger and his immediate successor, the latter had succeeded in making a true white porcelain.

Shortly before this time he had been working, in company with Tschirnhaus, in a laboratory constructed for them on the Jungfern-Bastei at Dresden, and it must have been about the time of the death of the latter that the critical experiments were made that led to the production of a white translucent paste. If this be so, it would seem that it was, after all, at Dresden, and not at Meissen, that the first true porcelain was made. It was not till the year 1710 that Böttger was again removed to the old castle of Meissen, where the requisite secrecy could be more effectually preserved.

In any case, in the year 1709 Böttger was able to show some specimens of a true porcelain—somewhat yellowish in tint, indeed—to the royal commissioner, and at the Leipsic Fair in 1710 not only was the red ware offered for sale for the first time, but a few specimens of the white porcelain were on view.

[1] In the porcelain gallery at Dresden may be seen (together with one or two small lumps of gold and silver, the results of Böttger's alchemistic experiments) some snuff-boxes and little flasks of a marbled glass, made by Tschirnhaus at an early date. It is probable that the latter experimenter's researches lay rather in the way of a frit-made soft paste, on the same lines as the contemporary attempts in France.

Soon after this we find Böttger established in the Albrechtsburg at Meissen as administrator of the newly established porcelain works. Even now he was little better than a prisoner, and in 1712 he requested the elector-king to allow him to resign. He was consoled, however, by a substantial present, and, so says one account, he was at the same time ennobled—at any rate he was offered the title of Bergrath. But Böttger's extravagant way of life led to his being constantly in need of money, and in the year 1716 he entertained proposals to sell his great secret to a syndicate of Berlin merchants. In 1719, on the discovery of this treachery, he was again imprisoned. In the same year Böttger died at the age of thirty-four. To the end, it would appear, he held out hopes to his master that he was on the way to success in his gold-making experiments, and his brother-in-law, in a solemn memorial, asserted that he was actually in the possession of the *lapis philosophorum*. How far Böttger, in making these claims, was playing a double game in order to obtain money from Augustus, it is impossible to say, but we must remember that at the same time Tschirnhaus, a man of culture and high intellectual attainments, was engaged in a search for the 'universal medicine.'

The red stoneware which was turned out already in 1708—it is now generally known as Böttger ware—resembles closely the boccaro imported at that time from China. Besides the red varieties, of two shades, there is a third kind, in which the surface, as it comes from the kiln, has been left untouched, and such pieces the Germans know as *Eisen-porzellan*. It is wonderful what a number of forms and applications Böttger was able to give to this stoneware during the short period during which it was produced. Of the red ware some of the carefully modelled pieces were polished on the lapidary's wheel. A child's head at South Kensington

is a good specimen of this polished stoneware. In the Franks collection, now at Bethnal Green, is a remarkable series of the different varieties of Böttger ware. A tankard of polished marbled paste is marked with the year 1720, showing that the stoneware continued to be manufactured for some time alongside of the true white porcelain. *A propos* of a beautiful little head of Apollo, we are reminded in the catalogue that in 1711 there were sixty of these *Apollo-köpfe* in stock. They were priced, unpolished, at nine groschen, or polished at sixteen. The difference, seven groschen, does not seem a high charge for the labour and skill involved in this polishing. In other cases the body is covered with a dark brown glaze, in which a design is traced in incised lines, brought out by gold. This glazed stoneware was afterwards imitated at Berlin and elsewhere in Germany. There are some curious pieces at Dresden, which show that Böttger also attempted, not very successfully, to apply enamelled colours over his dark glazes.

Not till the Easter Fair of 1713 was the white porcelain offered for sale at Leipsic, and even then the specimens on sale were far from faultless. Only in the year 1716—in the interval a new description of white paste had been discovered—was the ware exhibited technically perfect.

Thus in the space of some eight years, Böttger had not only succeeded in making an excellent imitation of the Chinese boccaro ware, of which the special merit was to withstand rapid changes of temperature, but he had once for all solved the great problem: he had produced a hard white porcelain, which has remained since that day the type for the whole of Europe.[1]

[1] And yet, forty years later (so well was the secret kept), it was maintained by practical authorities in France that the Saxon ware was no true porcelain, but only some kind of hard enamel. See Hellot's *Mémoire*, quoted below.

Where, we may ask, did Böttger acquire the technical knowledge and the practical experience, so essential in work of this kind? All the other men who have made a name for themselves as breakers of new ground in the art of the potter—Palissy, Poterat, Wedgwood, and to these we may add the great Chinese superintendents at King-te-chen and the Japanese artists Ninsei and Zengoro—were either working potters themselves or directors of large factories. What opportunities had this youth—he was only sixteen when he came to Dresden, and already, it would seem, 'well known to the police'—of acquiring the practical details of the kilns, the mixing vats, and the wheel?[1]

So again with regard to the materials he employed. Not much light has so far been thrown on this point. We have a somewhat childish story about a certain hair-powder—the *Schnorrische Erde*—which turned up at the psychological moment and solved the question once for all. But porcelain is not to be made from kaolin alone. That is only the skeleton, as the Chinese say. We must find also the right kind of flesh to make the bones hang together. No mention, however, is made in the current narrative of any experiments on felspathic rocks. We know at least that this famous 'hair-powder' was a very pure white kaolin, found at Aue, near Schneeberg, in the Erzgebirge, and that china-clay from this source was the principal ingredient in the earliest porcelain produced. So in later accounts we find mention merely of different qualities of kaolin from Aue, from Seilitz, and other sources.[2] A few years ago the Meissen paste, it

[1] We hear, however, of Dutch potters being engaged as early as 1708, and with their assistance Böttger, in 1709, made some imitations of Delft ware.

[2] In a contemporary German pamphlet, which I only know from a French translation (*Secret des Vrais Porcelaines de la Chine et de Saxe*, Paris, 1752), a certain '*spath alkalin*' is mentioned as an important element in Saxon porcelain, and this substance is identified with the petuntse of the Père D'Entrecolles.

is stated, was composed of kaolin from three different sources 72 per cent., of 'felspar' 26 per cent., and of old clay worked up again 2 per cent. In this and in most other cases where felspar is mentioned as a constituent of a porcelain paste, we must probably understand some kind of petuntse or china-stone containing quartz and perhaps other minerals in addition to the felspar. The following figures show the composition of the paste at the beginning of the last century: silica 59 per cent., alumina 36 per cent., and potash 3 per cent. The glaze was at that time composed of calcined quartz 37 per cent., Seilitz kaolin 37 per cent., limestone 17·5 per cent., and porcelain pot-sherds 8·5 per cent. From this it will be seen that the Meissen porcelain is of a somewhat 'severe' type. To judge from its composition it must require a high temperature in firing; on the other hand, the paste should possess considerable plastic qualities. The absence of lime from the paste and its presence in considerable quantity in the glaze is a point of interest. In this, the Saxon ware resembles the porcelain that is made in the Owari district of Japan. At Sèvres, on the other hand, we shall see that the glaze of the hard porcelain contains no lime, while that substance is an essential constituent in the paste.

The Meissen porcelain, and indeed the German porcelains generally, form a typically hard and refractory group. But they have in a full measure *les défauts de leurs qualités.* Among them we may look in vain for that blending of the glaze and body that gives to the best Chinese porcelain a surface like that of polished marble; still less do we find in the enamel decoration the brilliancy and transparence of Oriental wares. In place of this we see a chalky surface of a cold, neutral tone, over which is painted, in dull opaque tints, elaborately executed pictures that look often as if they had been *stuck on* as an after-

thought. Apart from the influence of the taste of the time, and the general absence of the colour sense among the German race, this dulness and opacity is the result of the high temperature required in the muffle-stove to enable the coloured enamels to adhere to the refractory glaze beneath them. As a consequence of this the choice of colours is limited, and even the enamels that are available never become thoroughly incorporated with the glaze.

To return to the porcelain made by Böttger in the few remaining years of his life, it is surprising in what a number of directions we find him making experiments; for indeed all the many varieties of porcelain made during his lifetime may be classed together as experimental. It is only in the museum at Dresden that we can study this interesting period. The moulds that had been used for the red stoneware served at first for the new porcelain. The ornaments in relief were modelled by hand and laid on the surface. Böttger attempted at one time to replace the enamel colours, so difficult to use with effect, by employing a kind of lacquer or mastic as a vehicle. His greatest triumph in this department was the so-called mother-of-pearl glaze, a thin wash of rosy purple with a slight lustre,[1] and this he combined with a free use of metallic gold and silver. The plain white of the Chinese was copied closely, but the early attempts at the decoration with blue *sous couverte* were strikingly unsuccessful. The larger pieces made at this, and even later times, have generally suffered from overfiring or from imperfect support in the kiln, and would now be regarded as 'wasters.'

After the death of Böttger in 1719 there follows an intermediate period, still in a measure experimental, during which the factory was under the charge of four

[1] If this colour is derived from the purple of Cassius, as seems probable, it is an important instance of the early use of this pigment upon porcelain.

PLATE XXXI. MEISSEN, COLOURED ENAMELS

commissioners. The blue and white of the Chinese was imitated, but not very skilfully. They were more successful with the *café au lait* glaze, which at that time was in great favour.

It is to the Viennese painter, Johann Gregorius Herold, or Höroldt (*b.* 1696; 1720-65 at Meissen), that the credit must be given of establishing a definite school of decoration. He began, however, with the imitation of Oriental designs. At this time the Japanese Kakiyemon ware (both the paste and the pattern) was closely copied. The blue and white with Chinese designs was at length more successful, and now the *poudré* blue and other monochrome grounds of the Chinese were also imitated. On the other hand, to this time (1730-40) also belong the earliest armorial dinner-services—those with the arms of Saxony and Poland for the electoral court, and more than one set with the arms of the Count Brühl for that pomp-loving nobleman.[1]

A new direction was given to the manufacture soon after the appointment (in 1731) of Johann Joachim Kändler (1706-1775) to the place of chief modeller. He it was that, abandoning the clumsy imitations of Chinese gods and monsters, first recognised the capabilities of porcelain as a material for those little statuettes and groups of figures that we have since that time come to associate above all else with the European porcelain of the eighteenth century, and especially with that of Germany. The subjects were taken partly from the social life of the day. In part also they carried on the tradition of the 'Italian comedy' and of the conventional pastoral life that we find in the French art of a somewhat earlier date. The pictures of Watteau and Lancret were much sought after at that time by the princely collectors in Germany, and a few choice works of these artists,

[1] Above all the famous 'Swan Service' of 1736, Kändler's masterpiece.

as well as many somewhat muddy copies and imitations of native origin, may be seen in the gallery at Dresden.

The plastic qualities and the infusibility of the paste, together with the thinness of the coat of glaze, enabled the artist to obtain a clearer and sharper reproduction of his model than was ever possible with the soft pastes and the thick lead glazes of the English imitations.[1] The best of these little figures, however, belong to rather later times, for during the last years of Augustus the Strong (he died in 1733) Kändler was occupied with more ambitious commissions—life-sized figures of the twelve apostles, an equestrian statue of the king, and figures of animals, to decorate the new rooms of the Japanese palace. But these attempts to employ porcelain as a material for monumental sculpture (in the style of Bernini) ended in failure. There is at South Kensington a series of figures in plain white, dating from this period, apparently destined to form part of a small fountain, and from these a very good idea of this application of the ware can be formed.

It was about this time, or a little earlier, that the passion for porcelain flowers, generally in plain white ware, spread through Europe. These or similar ornaments were even fastened to ladies' dresses,—witness the *gros papillons en porcelaïne de Saxe*, which we hear of as sewed on to the state-dress of a French *marquise*. This was the ware that it paid best to manufacture, both here and at Saint-Cloud and Vincennes. Porcelain flowers were applied at a later time to the whole surface of a vase. These 'Schneeballen vasen,' as they are called in Germany,

[1] We had in England until lately an unrivalled collection of these little groups—priceless specimens of the best period. They were exhibited by their owner, Mr. Massey Mainwaring, for some time at Bethnal Green. This collection has, however, now found its way to America.

were even reproduced at King-te-chen for exportation to Europe.[1]

With the employment of professional artists—flower-painters, landscape-painters, and painters of *genre* scenes—to adorn the surface of the already glazed ware with miniature pictures, a style of decoration came in, if decoration it can be called, which became more and more the dominant note of European porcelain during the next hundred years. The flower-painter came first with realistic, well-shaded little nosegays, in the style of the Dutch painters of the day; then landscapes, views of real towns, sometimes in a purple-red monochrome, and surrounded by a gold rococo frame to imitate that of an oil picture. The free use of gold, however, in the European porcelain of this time, was to some extent a saving point. It helped, as gold always does, to pull together the decoration. On the earlier Meissen ware the gold is most solidly applied and has worn well.

The palmy days of the Meissen factory, when seven hundred workmen were employed and large profits made, came to an end with the Seven Years' War. Frederick, in 1759 and again in 1761, looted the Albrechtsburg and carried away to Berlin the models and moulds as well as many choice pieces of porcelain. The rest of the stock was sold by auction, and the archives of the works were at the same time destroyed.

It was about this time that the most violent of the several porcelain fevers that distinguished the eighteenth century was raging, and the period of the Seven Years' War may be regarded as the culminating epoch in the history of European porcelain. Both at

[1] On the other hand, as early as 1732 the Meissen ware was finding its way to the East. Quantities of little coffee-cups (known as *Türken Copjen*, corrupted into *Türken Köpfchen*) were sent to Constantinople to be re-exported to other Mohammedan countries.

Sèvres, and with us in England, this is certainly the case. But at Meissen the best had already been produced; the *vieille saxe* of our ancestors is a product of an earlier period—the thirties, the forties, and the early fifties. During the decade succeeding the close of the war there was little falling off in France and England. At Meissen, however, there now followed a period of decline both artistic and financial. We find a 'professor of painting,' one Dietrich, at the head of a 'school of design,' and he seems to have been the most prominent man associated with the works at the time. Such an association is a sure sign of the wrong direction now being given to the manufacture. There was some fitful revival later in the century, after the appointment of Count Marcolini to the direction. He was an active minister of the last elector and first king of Saxony—Frederick Augustus the Just—and he held the post of director at Meissen for more than forty years (1774-1815). Marcolini's name is associated with certain changes of style which in the main reflected the various phases of a taste, or rather fashion, which took its watchword from Paris.

There are indeed two main divisions of this later period: during the first, sentimental *motifs* and an affectation of domestic simplicity prevailed; the second period was more especially the time when classical models were followed, and it culminated in the *Empire* style. The first phase is represented in Saxony by the works of the French sculptor Acier; in the later classical time the fashion came in of copying antique sculpture in white biscuit.

The Marcolini period is the last that has any interest for us. It was commercially at least a time of decline. It is said that Josiah Wedgwood, when he visited the factory at Meissen in the year 1790, offered to run it as a speculation of his own, paying a rental of £3000 to the king. The marvel is that the manu-

facture survived the troubles of the Napoleonic wars when Saxony suffered so much.

During the nineteenth century Meissen has followed more or less in the wake of Sèvres. Huge pieces were produced for presentation, heavily painted with copies of famous pictures in the Dresden Gallery, or adorned with frieze-like bands in monochrome, in imitation of ancient sculpture. During the same time, imitations of the *vieille saxe*, the marks included, were made with some success, and much cheap ware has been manufactured for the market, so that commercially the Meissen works have for some time had a flourishing career. The change that has come over Sèvres of late, the search after new methods, both in the composition of the paste and in the decoration, has not, I think, been reflected to any extent at Meissen, nor has the scientific side of the potter's art been illustrated by any works such as those of Brongniart and Salvétat. Indeed the old traditions of secrecy have been maintained in a measure up to the present day. It was only in 1863 that the porcelain factory was removed from the castle rock at Meissen, where it had been carried on for a century and a half, to a more roomy and convenient position in the neighbourhood.

The well-known mark of the two swords (PL. C. 27) cannot be traced by means of dated specimens further back than the year 1726. This mark had its origin in the privilege claimed by the Saxon electors of carrying the two imperial swords before the Emperor at his coronation. On the earliest pieces we find either the letters A. R. in blue (PL. C. 26), or else a roughly painted caduceus, or rather rod of Æsculapius (PL. C. 25), the first on ware for court use, the second on that made for the market. An incised mark cut with the wheel across the two swords is said to indicate the ware that was sold undecorated, generally pieces with some slight defect. We may note that a similar

practice was at one time in use at Sèvres. The addition of a star to the swords indicates the Marcolini period. These eighteenth century marks, however, were copied not only in England and by private firms in Germany, but also on the imitation of the *vieille saxe* made in the last century at the royal works at Meissen, so that their presence on a piece of china is of little value in identifying the date or place of origin.

CHAPTER XVI

THE HARD-PASTE PORCELAIN OF GERMANY—(*continued*).

VIENNA—BERLIN—HÖCHST—FÜRSTENBERG—LUDWIGSBURG—NYMPHENBURG—FRANKENTHAL—FULDA—STRASSBURG.

THE HARD AND SOFT PASTES OF SWITZERLAND, HUNGARY, HOLLAND, SWEDEN, DENMARK, AND RUSSIA.

IN spite of the elaborate precautions that were taken—the oaths of secrecy, the military guards that accompanied the relays of china-clay to the fortress at Meissen in which the works were established—by the middle of the eighteenth century, at nearly all the courts of Germany, imperial, royal, or serene, we find a porcelain manufactory already in full work. It was the fashion of the day, and took its place, like the opera company or the stud, in the equipment of an up-to-date *Residenz-Stadt*. Only one or two of these princely factories survived the time of turmoil at the end of the century and the Napoleonic invasions. In no single one of the works can we find that any fresh line was struck out or any important improvement made either in technique or in design. The products of these different factories are often to be distinguished only by the marks they bear, and these marks are as often as not forgeries. We shall therefore confine ourselves to a somewhat summary description, pointing out especially the relations of the different centres to one another. The starting of a new manufactory generally depended upon the successful bribing of some official or foreman of works: at the beginning such aid was

sought from Meissen, but later on the assistance came from Vienna or from Höchst, so that on this ground the relation of the works to one another might be represented by a rough kind of genealogical tree.

VIENNA.—The beginnings of the factory at Vienna were humble. Claude du Paquier, a Dutch adventurer, took out a patent for making porcelain in 1718, and with the aid of an enameller and gilder from Meissen, one Hunger, a man with some knowledge of chemistry, carried on the work on a modest scale, until in 1744 his factory and his secrets were bought by Maria Theresa for 45,000 gulden. The Viennese porcelain was henceforth, until the extinction of the industry in 1864, marked with the Hapsburg shield, generally in blue, under the glaze (PL. C. 28), with the addition, after 1784, of a contracted year-mark.

So long as the kaolin from Passau was employed the paste was inferior to that of Meissen and Berlin, but in later days a better material was obtained from Bohemia. The most flourishing period was from 1770 to 1790, and in 1780, we are told, there were three hundred and twenty men employed. In early years the porcelain did not differ much from that of Dresden, but in 1784, when Conrad von Sorgenthal became director, a new style was introduced which has made the Viennese in some respects the typical ware of a bad period. Much attention was paid to the gilding and to the pigments employed, and the surface of the porcelain was covered by an elaborate and often gaudy decoration. We are, however, informed by an eminent German authority that 'from 1785 to 1815 the Viennese porcelain among all the manufactures of the time took, from an artistic point of view, the highest rank' (Jaennicke, *Keramic*, Stuttgart, 1879). It is in any case remarkable that, during a period of disastrous war and foreign occupation, so much bad porcelain and

good music should have been produced at Vienna. It was at this time that the chemist Leithner obtained, for the first time, an intense black from uranium and perfected the process by which platinum is applied in low relief.

To the same chemist we must also attribute another speciality of the Viennese porcelain of this time,—the decoration with designs in polished gold upon a dead ground of the same metal. There are some elaborately decorated plates at South Kensington which well illustrate the merits or demerits of this ware. In spite of the early foundation of the factory, the Viennese porcelain, as a whole, falls into the later 'sentimental to classical' period, that contemporary with Marcolini at Meissen and with the earlier hard paste of Sèvres. The historical development of the ware is well illustrated in the Industrial Museum at Vienna, and it may be acknowledged that some success was obtained with small figures and even life-sized busts. A good deal of cheap and meretricious stuff made in the numerous private kilns in and around Vienna in the latter half of the nineteenth century has lately found its way into the English market.

BERLIN.—The porcelain of Berlin is of some interest to us for two reasons, one historical and the other of a technical nature. On the one hand it was thanks to the fostering care of the great Frederick that the factory first assumed any importance, and on the other it was the great attention given in later days to choice of materials (together with the refractory nature of the paste) that led to this pure white ware being employed above all others in the laboratory of the chemist. As at Vienna, the origin of the works was humble, and in this case one perhaps might even say 'shady,' if we are to believe the story that it was the workmen who had stolen from the pocket of Ringler, the arcanist of

Höchst, the papers containing his recipes and private notes, who were engaged in 1750 by the merchant Wegeli, the first to set up a kiln for porcelain at Berlin.[1]

The ware that Wegeli made is not important. We find little figures and groups in imitation of Kändler as well as cups and teapots decorated in blue, *sous couverte*, with little sprigs; his mark, a W., has unfortunately been used at other factories. It was indeed rather the banker Gotzkowski who was the practical founder of the Berlin works, for Wegeli had abandoned his enterprise at the commencement of the Seven Years' War.

German writers are not agreed as to what share should be given to the king in the removal of the staff and workmen of the Meissen works to Berlin in 1761. Frederick at that time was hard pressed by his enemies and in great want of money; in the letter, quoted below, he writes that he has nothing left but his honour, his coat, his sword, and *his porcelain*. He has been accused of forcibly removing to Berlin, not only the workmen, but the artists also and other members of the staff at Meissen. On the other hand, it is claimed that the removal was voluntary, and brought about by the offers of good pay made by Gotzkowski. Frederick at that time had other things to do,[2] and it was not till

[1] We may remind the reader that it was a syndicate of Berlin merchants who at an earlier date sought, it is said, to purchase from Böttger his secret. There is little doubt, however, that the anecdotes about Ringler, which abound in the notices on German porcelain, are little more than 'porcelain myths.' Very similar anecdotes are told of the early days at Vincennes, and in Japan, as we have seen, such stories sometimes take a more tragical form. There is a strong temptation, no doubt, in traversing the somewhat arid ground of German ceramics, to fall back on such tales. At all events they belong to the class of *tendenz Mährchen*, and illustrate the difficulties to be overcome at that time in starting a new factory.

[2] Not but that we have proof of his interest in the subject, as the following letter, dated Meissen, March 28, 1761, will show. It is written to Madame Camas, his *chère Maman*, who was then with the queen at Magdeburg:—'I send you, my dear mamma, a little trifle, by way of keepsake and memento. You

the close of the war in 1763 that he purchased Gotzkowski's new works for a large sum. He now had leisure to take a personal interest in the manufacture. About this time the kaolin which had been previously brought from Passau, in Bavaria, was obtained, of better quality, from the quarries near Halle which still supply the Berlin works. The sale of the porcelain was forced with true Prussian energy: its purchase was obligatory for lottery prizes, to the amount of 10,000 thalers every year, and no Jew could obtain a marriage certificate except on the production of the receipt for the purchase of a service of porcelain. It is for this reason that the Berlin ware is in Germany sometimes known as *Juden porcellan*. Grieninger, a Saxon, was the practical manager of the works from the time of their foundation by Gotzkowski to the end of the century. During this period the porcelain produced differed little from that previously made at Meissen. A shade of pink, derived from the purple of Cassius, was much admired by Frederick, and forms the *pendant* to the famous rose-colour of his bitter enemy, Madame de Pompadour.

The changes made after this time were chiefly of a practical nature. The horizontal furnaces were early replaced by the cylindrical type now generally in use in Europe, and as long ago as 1799 steam power was employed in the preparation of the materials. The chemist, above all, has at all times played an important part at Berlin.

Many strange applications of porcelain, some more curious than really beautiful, were introduced about the beginning of the nineteenth century. A close imitation

may use the box for your rouge, for your patches, or you may put snuff in it or bonbons or pills. . . . I have ordered porcelain for all the world, for Schönhausen, for my sisters-in-law,—in fact I am rich in this brittle material only. And I hope the receivers will accept it as current money: for the truth is, we are poor as can be, good mamma. I have nothing left but my honour, my coat, my sword, and my porcelain.'—Carlyle's *Frederick the Great*, Book xx. chap. vi. Marryat, who gives this letter in his notes, mixes up Carlyle's comments with the text.

of lace and *tulle*, made by dipping into a specially prepared slip a real tissue which was afterwards burned away, was a nine days' wonder when first introduced. (A veiled bust in white biscuit of Queen Louise of Prussia, now at Dresden, is perhaps the most famous example of this ware.) Another application of porcelain was to the 'transparencies' or *lithophanie*, in which the design, as seen by transmitted light, was given by variations in the thickness of the paste.

The only mark of interest on the porcelain of Berlin is the sceptre (PL. C. 31), the prized ensign that the electors of Brandenburg bore on their shield as an emblem of their position as Arch-Chamberlains of the Holy Roman Empire.[1] It was this sceptre (very slightly indicated on the earlier examples, and resembling, perhaps intentionally, the Saxon mark) that the Prince de Ligne observing on his plate, when dining with the king, affected to take for a sword, and made the occasion of a 'two-edged' compliment.

HÖCHST.—The fayence of Höchst, a town lying between Frankfort and Mainz, had acquired some reputation early in the eighteenth century, and already, by the year 1720, one of the manufacturers, Göltz, had attempted to make porcelain. But not until he had obtained the assistance of a runaway workman or 'arcanist' from Vienna, one Ringler (a name which occurs over and over again in similar connections—see note, p. 262), was anything of importance accomplished.[2] The kilns were now rebuilt on the Viennese model, and by the year 1746 porcelain of good quality was produced. The works had already received many privileges from the local prince, in this case the archbishop-elector of Mainz, and about 1778 (or perhaps earlier) the whole

[1] The Hohenzollern shield bears two sceptres in saltire *en surtout*.

[2] Another account gives the credit to Von Löwenfinck, a porcelain painter from Meissen.

establishment was purchased by him. This prince was a patron of art and fond of display, so that during his day the manufacture was conducted on a non-commercial basis. The chief claim to attention of the ware made at Höchst depends upon the little lifelike figures that were modelled by a clever sculptor who worked there from 1768 or 1770 to 1780. The work of this Johann Peter Melchior, who survived till 1825, is preferred by some collectors to anything made at Meissen. He migrated late in life first to Frankenthal, and then to Nymphenburg. The wooden models from which he worked are now much sought after in Germany. It is stated that the kaolin used at Höchst was obtained from Limoges, but this can only apply to a comparatively late period. The works came to an end with the invasion of the French in 1794. The mark, a six-spoked wheel, sometimes surmounted by a crown (PL. C. 29), is derived from the arms of the arch-episcopal see of Mainz,—indeed the Höchst ware is sometimes known as *porcelaine de Mayence.*

FÜRSTENBERG.—The Duke Karl of Brunswick was one of the earliest German princes to establish a porcelain factory; this was at the castle of Fürstenberg, on the Weser. The works were organised about 1746 by the Baron von Langen, who was something of an arcanist; and from Höchst, in 1750, the assistance of an experienced potter, one Bengraf, was obtained. Bengraf had to escape by stealth from Höchst, where he had been in the employ of Göltz, and reached Fürstenberg after many sufferings and privations. A point of interest in connection with the porcelain made at a later time at this factory is that flour-spar (fluoride of calcium) has formed an important element in the composition of the glaze. In the Museum at Brunswick may be seen more than eight hundred specimens of this porcelain, and any want of originality is made up for

by the extraordinary variety and number of the different wares that have been copied. It is not perhaps surprising, in view of the close family ties existing between the dukes and our second and third Georges, to find copies of our English soft pastes, especially of Chelsea. The clarets and maroons of this latter ware were imitated with some success. A landscape-painter of some local fame, whose works may be seen in the gallery at Brunswick, one Pascha Weitsch, was employed to paint views on this porcelain, and good portrait-busts—of Lavater and of Raphael Mengs, among others—may be found in the adjacent museum. The factory has continued in operation up to quite recent times. The Fürstenberg mark, a large F in a flowing hand (PL. c. 30), may be observed not unfrequently on china in old collections in England. There was more than one specimen at Strawberry Hill.

LUDWIGSBURG.—We now come again upon the arcanist Ringler. In 1758 he was tempted away from Höchst by the Duke Karl Eugen of Würtemberg, and placed at the head of a manufactory of porcelain which had lately been established at Ludwigsburg, the Versailles or Potsdam of the dukes, situated some nine miles to the north of Stuttgart. The paste of this ware is not remarkable for purity of tint, and I do not know whether we are to believe the statement that the materials came in part from France. The enamel painting is distinguished by its high finish; on the gala services made for the court, among wreaths of flowers in low relief we find carefully painted beetles and butterflies. The little, highly finished statuettes and groups are of some merit. In the Museum of National Antiquities at Stuttgart is now to be seen an extensive collection of porcelain, purchased in 1875 from Herr Murschel, and here the Ludwigsburg ware can be well studied. The shield of Würtemberg, with

1

2

PLATE XXXII. 1. MEISSEN. 2. LUDWIGSBURG

its three pairs of antlers, is sometimes found on this ware (PL. c. 35), but more often the initials of the reigning duke—or (after 1806) king—with or without a crown (PL. c. 36). It is this last mark that has probably given rise to the absurd name of Kronenburg by which this ware is sometimes known among dealers. Soon after 1775, when the dukes abandoned Ludwigsburg as a place of residence, the factory declined in importance, but the manufacture lingered on till the year 1824.

NYMPHENBURG.—About the middle of the eighteenth century the electoral prince, Max Joseph, established some works at Neudeck, on the Au, in ducal Bavaria, and this factory, it is said, was visited and reorganised by the ubiquitous Ringler in 1756. In 1758, however, the manufactory was removed to the summer residence of Nymphenburg, near Munich. Heintzmann painted landscapes, and other artists copied famous pictures from the Munich Gallery, on the fine white ground of this porcelain. The elector-palatine inherited the ducal territory in 1778, and hither, in 1799, came many workmen from Frankenthal when the palatinate was invaded by the French. This ware is best represented in the National Museum at Munich. The works are still carried on, but they are now in private hands. The Nymphenburg porcelain may generally be recognised by the shield of Bavaria, 'fusilly' (PL. c. 35), but this shield takes various forms and the mark is often very small.

FRANKENTHAL.—Somewhat more interest attaches to the porcelain made at Frankenthal, a town of the palatinate, not far from Mannheim, if only because at its foundation we are brought into connection not only with the earlier German works, but at the same time, indirectly, it is true, with Sèvres. Here, according to

one account, came Ringler, in 1751, leaving Höchst in disgust, after he had been robbed of his papers and of his secrets. At any rate, a few years later, in 1755, Paul Antoine Hannong, a member of a famous family of potters at Strassburg, was granted a privilege to found here a factory of porcelain. Hannong had graduated as a porcelain arcanist, and had already fruitlessly endeavoured to sell his secrets to the authorities at Vincennes. As the royal porcelain works, on their removal to Sèvres, now began to claim the monopoly for the whole of France, Hannong was not allowed to set up his kilns at Strassburg.

The electoral prince Karl Theodor bought the works at Frankenthal in 1761, and devoted himself to obtaining the best artists (Melchior, among others, was brought from Höchst) and most skilful potters, so that for a few years the porcelain here produced was in its way as good as any made in Germany—indeed it was attempted to rival the contemporary work of Sèvres in the delicacy of the painting and the brilliancy of the gilding. This ware is always to be associated with the Elector Karl Theodor, and its glory came to an end when, in 1778, he abandoned the palatinate on becoming elector of ducal Bavaria. The factory, however, was not finally closed till about 1800. The most usual mark is the lion-rampant crowned, from the arms of the palatinate (PL. c. 32); the initials of Karl Theodor are also found surmounted by a crown (PL. c. 33). There is a curious plate of this ware in the Franks collection; it bears a Latin inscription (containing a chronogram for 1775) which states that all the various colours and gilding used at the works are made use of in the decoration.

FULDA.—Porcelain was probably made at Fulda as early as the year 1741, but it was only in 1763, or perhaps even later, that the prince-bishop set up the '*Fürstliche Fuldaische feine Porzellan-Fabrik*' close

by his palace. The daintily modelled and carefully finished ware here made, marked with a double F or by a cross (PL. c. 37 and 38), is seen occasionally in English collections. The fireclay as well as the beechwood for his kilns was obtained from the adjacent volcanic hills of the Hohe Rhön. As not only the bishop himself but the canons of the church also availed themselves somewhat freely of their privilege of appropriating whatever pleased them, as presents to their friends, a heavy loss was incurred, and the works were closed soon after the death of the founder.

Porcelain was also made during the latter half of the eighteenth century at Gotha and several other places in the neighbourhood of the Thüringer Wald. There are specimens of the ware made at many of these kilns—at Kloster Veilsdorf, at Wallendorf, at Gross Breitenbach, Limbach, Gera, and especially at Gotha—in the Franks collection of continental porcelain. A good deal of common porcelain for table use is still made at scattered factories in this district.

STRASSBURG.—Without committing oneself to any political *parti-pris*, we may conveniently say a word of the ceramic history of Strassburg at this point, although in the eighteenth century the town already belonged to France.[1] The Hannong family had here from the beginning of the eighteenth century been making fayence, and this family is of interest to us as forming a link between the porcelain of Germany and that of France. Charles François Hannong, probably with the assistance of a German arcanist, attempted the manufacture of hard porcelain as early as 1721. It was his son Paul Antoine who first entered into negotiations with the French for the sale of the secret of making hard

[1] Politically, that is to say; for the town formed part of the 'Pays d'Étrangers,' and its commercial and social relations were still rather with Germany than with France.

porcelain. This was in 1753. Not only did these negotiations come to nothing, but, as we have already mentioned, Hannong was hampered in his attempts to establish a porcelain factory in his native town. In 1755 we find him with the elector-palatine at Frankenthal. After his death in 1760, the factory at Strassburg was carried on for a time by his son, Pierre Antoine, but in 1766 the latter went to France and started a factory first at Vincennes, and later in the Faubourg St. Lazare, under the patronage of the Comte d'Artois. Later still we find him employed at the Vinovo works in Piedmont. His eldest son, Joseph Adam Hannong, struggled on for some time at Strassburg under the protection of the local magnate, the Cardinal de Rohan. Thus for more than sixty years four generations of this family played a prominent part in the dissemination of the knowledge of hard porcelain in Europe, although the actual wares made by them are of little importance.[1]

The factory at the adjacent town of Niderwiller appears to have derived its inspiration directly from Meissen. Porcelain was here made from German clay as early as the sixties. At a later time the works belonged to the Comte de Custine, and some well modelled biscuit figures, the clay for which was obtained from Limoges, were then turned out.

SWITZERLAND.—A good deal of porcelain was made in the eighteenth century both at Zurich and at Nyon, on the Lake of Geneva. The various wares are well represented in several of the local Swiss museums.

The porcelain of ZURICH belongs essentially to the Saxon group. The hard, greyish or dead-white paste, and the flowers or landscapes carefully painted in opaque colours, point at once to the origin of the ware. The factory was established as early as 1763, with the

[1] I take these facts about the Hannong family from Sir A. Wollaston Franks's *Catalogue of Continental Porcelain*, 1896.

assistance of an arcanist, one Spengler, from Höchst. The Swiss poet, Solomon Gessner, took a great interest in the works, himself painting landscapes on several pieces. From Ludwigsburg also came Sonnenschein, to model some clever and lifelike figures. A coral-coloured ware made at this time was much admired. The Zurich factory did not long survive the French invasion: it was closed in 1803. This porcelain is marked in blue under the glaze with a capital Z of German form (PL. D. 49).

At NYON, on the other hand, the influence came from Sèvres, in later times at least, for on the earlier specimens the tulips, birds, and landscapes are of a Saxon type. The white ware, *semé de fleurettes*—blue violets and roses—is perhaps the most characteristic. There were probably two factories here at the end of the eighteenth century. Of these the better known one was established by Maubrée, a flower painter from Sèvres, to whom is attributed the porcelain marked with a hastily sketched fish in blue (PL. D. 50). Some of the Nyon porcelain was decorated at Geneva, and at a later date we find more than one artist of the latter town holding an important position at Sèvres; indeed under Charles X., a Genevese, Abraham Constantin, who copied the pictures of Raphael on porcelain, was director of the art school attached to the royal factory.

HUNGARY.—A factory was established by Moritz Fischer at Herend, in Hungary, early in the nineteenth century. The porcelain of Herend is of especial interest to us, for Fischer appears to have mastered the problem of producing the brilliant and jewel-like enamels of the Chinese. Some of his imitations of the *famille rose* are excellent. He appears to have devoted himself to making coffee-cups and other small objects for the Turkish market. There is an interesting collection of his ware at South Kensington. The *rouge d'or*, the

green and even the black grounds of the Chinese are well imitated, but the blue, *sous couverte*, and the iron red are not so successful. He also imitated the porcelain of Sèvres and Capo di Monte. Fischer stamped his ware with the word Herend in very small characters, and the Hungarian coat of arms is sometimes added over the glaze (PL. c. 39).

At the time of the great porcelain fever of the eighteenth century, of which the culminating period may be held to be coincident with the Seven Years' War (1756-63), the North of Europe—Holland, Denmark, and Russia—formed part of the great province that had its metropolis at Meissen, while the southern countries—Spain and Italy (in part)—may be said to have looked to Sèvres for their inspiration. As for England, its allegiance was divided, but at the beginning, and certainly during the best period, the French influence was predominant; and later on, as regards the materials at least, we struck out a line of our own.

HOLLAND.—There is little of novelty or originality to be found in the hard-paste porcelain made at this time in the North of Europe. The great days of Dutch art were over long before the introduction of porcelain into Holland, and the little that was then made fell readily into the Saxon school of decoration. Somewhere about 1760 the Count of Gronsfeld Diepenbroik established some of the Meissen workmen at Weesp. The mark on this early ware is doubtless derived from the Saxon swords (PL. c. 40). Later, when removed to OUDE LOOSDRECHT, the works were under the superintendence of a Calvinist *pastor*—his name is given as Moll. The mark on his porcelain, however, M. O. L., certainly referred in the first place to the place of manufacture (PL. c. 41). On the death

of the reverend director in 1782 the factory was removed to Amsterdam, where the porcelain known generally as OUDE AMSTEL—a name that is often made to include the other Dutch porcelain of the time—was manufactured.

At THE HAGUE, in 1778, a company was formed to make porcelain. This was under the patronage of the local magnates. They obtained the assistance of German workmen, and took the well-known badge of their town—a stork holding a fish in its mouth—as a mark (PL. C. 42). This was painted in blue *under the glaze*—for the native porcelain at least. In the case of the foreign white ware, much of which was decorated here—the soft paste of Tournai especially—the mark was painted *over the glaze*. The somewhat heavily decorated porcelain of the Hague, painted with landscapes, sea-pieces, and flowers, is now much sought after by the Dutch. At the time, however, the competition of both Oriental and German porcelain, of the enamelled fayence of Delft and later of the English wares, left little place in Holland for a native porcelain.

SWEDEN.—The fayence and soft-paste porcelain made at Marieberg and at Rörstrand—both places in the neighbourhood of Stockholm—received their inspiration from Delft and Sèvres (or rather perhaps from Mennecy) respectively. Some hard paste was also made at Marieberg about 1780. The rare specimens of this ware are of considerable artistic merit. Of the soft-paste Swedish porcelain there are some custard-cups, closely imitating the Mennecy ware, both at South Kensington and in the Franks collection. The hard porcelain (and also, it is said, a ware that appears to be of a hybrid paste) bears as a mark the three crowns of the house of Vasa (PL. C. 44).

DENMARK.—At Copenhagen there were some early

attempts at a soft paste made by a Frenchman named Fournier about 1760.[1] The mark—F. 5.—on this ware refers to Frederick v., the reigning king. But the famous factory of hard-paste porcelain, that has of late years shown so much enterprise and originality,[2] was founded in 1772 by F. H. Müller, a chemist and Government official, the materials being obtained from the island of Bornholm. In this case the German influence came from Meissen, and also, it would seem, by way of Fürstenberg, for we hear of a certain Von Lang from that town (probably the Von Langen mentioned above), baron and arcanist, who helped in the founding of the works. The factory was taken over by the Government in 1779, and it was long worked at a loss. The mark of three wavy lines in blue on this ware stands for the Sound, the Great and the Little Belt (PL. C. 43). The curved mouldings, radiating in sets of three from a central medallion, sometimes found on bowls and plates, may also have a similar reference. This latter decoration is shown well on a bowl at South Kensington, painted with birds and flowers in gold frames. The handsome *cabarets* and dinner-services produced in the eighteenth century belong to the German school of the time, and have little relation to the more recent developments about which we shall have a word to say in chapter xxiii.

RUSSIA.—Peter the Great, at the instigation of his friend and ally, Augustus of Saxony, is said to have projected a manufactory of porcelain at St. Petersburg, but the scheme was not carried out till the time of the

[1] In the same year we find Count Schimmelmann, who at a later date interested himself in the Copenhagen factory, selling by auction at Hamburg some of the vast stocks of Meissen china that Frederick had thrown on the market.

[2] As a royal factory, however, it became extinct in 1864. See chap. xxiii.

Empress Elizabeth. This was probably about 1756, or perhaps earlier, and she doubtless, a few years later, welcomed the Meissen potters driven out by her mortal enemy, Frederick.[1] Under Catherine II. these works rose to some importance, and among the many artists and sculptors attracted to her court, not a few—Falconet, among others—were employed as modellers or painters on porcelain. But on the whole the Russian porcelain was influenced more by Saxon models, and we hear that the gaps in the court services of Meissen ware were so well replaced by native pieces that the new dishes and plates were not to be distinguished from the old. The kaolin and the china-stone were derived from native sources.

After the Napoleonic war the manufacture of gigantic vases, in the style of those made at Sèvres under Brongniart's *régime*, was attempted, and several skilful artists migrated from France. Technically the porcelain was not inferior to the hard paste of the latter country. The only mark is the initial of the reigning Emperor or Empress in Russian characters (PL. C. 46), surmounted sometimes by a crown, but beyond these letters there is nothing Russian about the ware. The factory, which is still carried on, has always been an appanage of the court, and its chief produce has consisted in gala pieces for imperial presents.

Not much seems to be known about a certain Gardner, an Englishman, who in 1787 organised a porcelain factory at Tver, near Moscow. Some statuettes with his initials, written in Russian, have been attributed to him. His name occurs in full,

[1] Thus we have, during the Seven Years' War, Frederick's three bitter opponents—Maria Theresa in Austria, Elizabeth in Russia, and the Marquise de Pompadour in France—all taking an active interest in promoting the manufacture of porcelain, and this rivalry may have added to the zest of Frederick when he looted Meissen and sought to make Berlin take its place as the metropolis of porcelain.

again in Russian letters, on some small pieces of ribbed porcelain, decorated with green and gold. The factory seems to have long preserved his name, for on a statuette of a Russian peasant, in the Franks collection, the words *Fabrika Gardnery* are accompanied by the initials of Alexander II. (PL. C. 45).

CHAPTER XVII

THE SOFT-PASTE PORCELAIN OF FRANCE

SAINT-CLOUD—LILLE—CHANTILLY—MENNECY—
PARIS—VINCENNES—SÈVRES.

WE have now to take up the history of the soft-paste porcelain of France, and in the first place to follow the stages that intervene between the early tentative ware made by Poterat at Rouen (see p. 239) and the fully developed 'artificial' porcelain of Sèvres. We have, then, to deal first with the wares of Saint-Cloud and Chantilly, and in part with those of Lille and Mennecy-Villeroy.

But before saying anything of the different wares we had better go back to the technical side of our subject, and give some explanation of the term soft paste,[1] artificial paste, or frit paste.

We have come across something of this sort before in the case of the Medici ware. This was essentially the combination of a glass with a fine white clay.

[1] An American writer has arranged the tests by which soft pastes may be distinguished from true porcelains under six heads. 1. *The file test.*—Soft porcelain may be marked by a file. 2. *The foot test.*—In hard porcelain the foot is generally rough and unglazed. This test is rather of value in distinguishing porcelain from fayence. 3. *The fire test.*—Depending on the greater fusibility of the soft pastes. 4. *Chemical test.* 5. *Colour test.*—Soft paste is generally mellow ivory by transmitted light, and this is especially true of 'bone-ware.' The hard paste tends to bluish shades. 6. *Fracture test.*—The fracture is glassy to vitreous, and the glaze passes into the paste in the case of hard pastes (the subconchoidal splintery fracture is rather the point to observe); dry and chalky, and the glaze more or less separated from the paste in the case of soft pastes.—E. A. Barber, *Pottery and Porcelain of the United States*, New York, 1901.

When we come to the French soft paste we find the kaolinic element replaced by something between a calcareous clay and an impure limestone, the *marne* of the French, which may be rendered by our somewhat vague expression, marl.

M. Vogt (*La Porcelaine*, Paris, 1893) quotes from a memoir drawn up in 1753 by Hellot, a prominent member of the Academy of Science, which well illustrates the point of view of the time. Hellot knew all about kaolin and petuntse, as described by the Jesuit missionaries, but he despaired of finding the materials in France. M. de Réaumur, he tells us, made, it is true, a greyish refractory ware from what he (Réaumur) claimed to be the French equivalent of these materials, but the 'firm, compact, snow-like porcelain of China, what we commonly know as *Ancien Japon* (*sic*) has yet to be imitated.' After giving an outline of the history of French soft paste up to this time (to this important contemporary evidence we shall return shortly), Hellot claims that this soft paste is equal to the real 'Japan,' except that the grain is less fine, while as for 'the Saxon ware, it is no porcelain at all except on the exterior. When broken it is easy to see that it is merely a white enamel, only harder than the ordinary enamel of painters.' This, be it noted, is written forty years after Böttger's great discovery. We see by it how well the secret was kept.[1]

There is no question, therefore, but of soft-paste porcelain. It is thus that Hellot sums up his report, written at the critical period when it was proposed to remove the Vincennes works to Sèvres, and place them under more immediate royal protection, and for this verdict we have every reason to be thankful.

It is from this same memoir, *Recueil de tous les*

[1] De Réaumur, we must remember, had made some kind of hard-paste porcelain from Chinese materials. After that he fell back upon his devitrified glass. Something very similar had been made by Tschirnhaus many years before.

procédés de la Porcelaine de la Manufacture Royale de Vincennes, that we obtain the most accurate details of the composition of the soft paste made at this time. It was a strictly private document, written expressly for the king by Hellot, who had recently been appointed to the direction of the Vincennes factory. This report was unearthed some time ago from among the archives at Sèvres.

According to Hellot, writing in 1753, just as the Chinese combine the more fusible petuntse with the kaolin—'a kind of talc which neither calcines nor vitrifies'—so with our frit, an artificial petuntse, we must mix, not an unctuous fusible clay, but some fine white infusible substance. Such a material is found in certain *marnes* obtained from the gypsum quarries near Paris.

The frit employed at Vincennes at this time—and the composition seems to have varied little up to the last days of soft paste in France—was essentially an alkaline silicate, containing also some lime and alumina, as will be seen from the following recipe:—

Fused nitre, . . .	22 per cent.
Sea salt, ...	7 ,,
Alicante soda, . . .	3·7 ,,
Rock alum, ...	3·7 ,,
Montmartre gypsum, .	3·7 ,,
Fontainebleau sand, . .	60 ,,

These ingredients, some of which are soluble in water, are fritted together—that is to say, imperfectly fused—in a part of the kiln specially reserved for them, great precautions being taken to regulate the heat. After reducing the frit to powder, the superfluous salts had to be thoroughly washed out by means of boiling water, before the substance was fit for mixing with the 'body' constituent of the paste.

This body is prepared from the *grosse marne* found at Argenteuil, by careful sifting and decantation. Six

parts of the prepared frit are mixed with one part of the washed marl and with one part of a kind of chalk called *blanc d'Espagne* (this last substance was afterwards dispensed with), and the whole thoroughly united by a grinding process which lasted for nine days. The resulting paste was made up into balls and allowed to 'ferment' for seven or eight months.

Now, if we glance over the various materials that have entered into the composition of this very 'artificial' paste, we see that alumina, the substance which, together with silica, we regard as the essential element in all fictile materials, is present in very small quantities; what there is of it can only be derived from the marl and from the alum in the frit; and this inference is confirmed by an analysis made by Salvétat —he found, indeed, only 2·23 per cent. of this earth in a fragment of old Sèvres. It may safely be said that in no other fictile ware is so small a quantity of alumina present. With this poverty of alumina we may associate the want of plasticity — the extreme 'shortness' which distinguishes this clay, if clay it can be called. In order to throw it on the wheel it had to be worked up with a certain quantity of *chimie*, a mixture of black soap and fine glue; at a later time gum tragacanth was used. Most of the soft paste, indeed, was made in moulds, but even in this case the *pâte chimisée* had to be employed. It was not till a later time that these difficulties were in part overcome by the introduction of the English process of 'casting.'

The kilns at this time were small, with only one hearth, in which poplar wood was burned, but the firing was sometimes continued for more than a hundred hours. Hellot tells us that after the first firing more than two-thirds of the charge had generally to be rejected. The remainder—the successful biscuit-ware—was now polished with grit-stone, before being

dipped into the soup-like glaze slip: in the case of vessels of complicated outline, the glaze was painted on with a brush. This 'enamel,' as the French sometimes call it—the term must not be confused with our use of that word—was essentially a silicate of lead, soda, and potash—a flint or crystal glass, in fact, containing nearly 40 per cent. of litharge. Hellot describes its preparation as follows: the constituents of the glaze, thoroughly mingled together, were melted to a glass, which had then to be reduced to a fine powder, and mixed with water and vinegar to form the slip. The presence of vinegar hindered the deposition of the solid particles in the soup-like liquid, and at the same time promoted the adhesion of the slip to the surface of the biscuit. This biscuit, with its thick coating of glaze, was now again fired, this time at a more gentle temperature.

The plain white ware was now handed over to the painters and gilders, and it is at this stage that the advantage resulting from this thick coating of an easily fusible, lustrous glaze asserts itself. The pigments themselves, suspended in a flux of similar constitution, are at the temperature of the muffle-stove completely incorporated with the subjacent glaze, and do not, as in the case of the German and still more of the later Sèvres hard paste, lie as a dead coating on the surface.

Hellot gives in his report numerous recipes for these enamel colours—there are as many as twenty-five for the blacks alone—but from these empirical data little is to be learned. It would seem, however, that the 'enamels of Venice,' prepared doubtless by the Murano glassblowers, were imported for this purpose.

The muffle-firing was a long and complicated process—the preliminary heating in the case of large pieces occupied twenty-five hours. The superintendence of the firing of each batch was delegated to one of the painters—a most arduous and responsible task

which often occupied as much as fifteen days, for each piece had to pass to a fresh position when a requisite degree of heat had been obtained.

The above summary will give some approximate idea of the complicated and delicate processes involved in the fabrication of the *porcelaine de France* at the time when the ware that is now most prized by collectors was being produced at the works. We must now give some account of the forerunners—the soft-paste porcelains made at Saint-Cloud and at Chantilly in the early part of the eighteenth century.

SAINT-CLOUD.—In 1695 the widow and children of Pierre Chicoineau (or Chicanaux) petitioned the king for the sole privilege of making the '*véritable porcelaine de la même qualité, plus belle et aussi parfaite et propice aux mêmes usages que la porcelaine des Indes et de la Chine.*' In granting the petition, the rights of the Poterat family of Rouen are reserved; but it is stated that no porcelain had been made at Rouen for several years. The earliest description, curiously enough, of the manufacture of porcelain in France, is to be found in *An Account of a Journey to Paris in the year* 1698, by Dr. Martin Lister. In speaking of what he saw at the 'potterie of Saint-Clou,' Lister declares that the painting of the ware surpassed that of the Chinese, nor was the glaze inferior in whiteness and 'smoothness of running without bubles. . . . Again, the inward Substance and the Matter of the Pots was to me the very same, firm and hard as Marble, and the self-same grain, on this side vitrification. Further, the transparency of the Pots the very same.' After more than twenty-five years of experiment it was only, says Dr. Lister, within the last three that the process had been brought to perfection. We may therefore place the beginning of the porcelain of Saint-Cloud about the year 1695.

2 1 3

PLATE XXXIII. 1—ROUEN, BLUE AND WHITE
2—SAINT-CLOUD, CELADON
3—SAINT-CLOUD, BLUE AND WHITE

In the *Mercure Galant* of October 1700 we hear of frequent visits of princes, lords, and ambassadors to the works of 'M. Chicanaux,' above all of the young Duchesse de Bourgogne, who 'stopped her carriage at the gate to see the manufacture of fine porcelain which has not its like in all Europe.' This reads very like a modern *réclame*, but it is important as showing the interest already taken by great people in the new ware.

At a later time the Saint-Cloud works came more directly under the patronage of the Dukes of Orleans, both the regent and his son 'Louis le Dévot.' It was then in the hands of Henri Trou, who had married Chicoineau's widow. Earlier Chicoineau pieces (1702-1712) bear as a mark the sun of Louis XIV. roughly traced in blue (PL. D. 51). At a later time, under the Trou *régime*, we find a roughly drawn T surmounted by the letters S.-C. (PL. D. 52). The specimens of this ware—there are plenty of them in the French museums and several at South Kensington—are seldom of any size, and the decoration is generally sparingly applied to the milk-white ground. In the earlier pieces the *lambrequins* borders in under-glaze blue carry on the tradition of the seventeenth century renaissance style in use at Rouen, and we find similar patterns moulded in low relief.[1] The moulded surface is often covered with a scale-like pattern (PL. XXXIII.): with this we may probably identify 'the quilted china of Saint-Cloud,' of which there was a tea-service at Strawberry Hill. But it is rather the Oriental influence that is generally predominant; and the white ware of Fukien, decorated with sprigs of prunus blossom, is closely copied. Of special interest are some very successful imitations of the *famille rose*. On a *trembleuse* saucer at South Kensington[2] the *rouge d'or* is used with great effect;

[1] These, I think, are almost the only instances in which a distinctly seventeenth century decoration is to be found on porcelain.

[2] These *trembleuse* saucers of the early eighteenth century have a projecting ring into which the base of the teacup fits.

the way in which the pink is gradated with the white enamel shows full command of the materials. This saucer bears the T of the Trou family as a mark, but we unfortunately do not know the exact date when this mark was first introduced, and still less for how long it was employed.[1]

LILLE.—A manufactory of porcelain was founded at Lille as early as the year 1711. The founders, in their petition to the mayor and council of the town, acknowledge that their aim was to follow in the wake of the Chicoineau family of Saint-Cloud, the only place in Europe, they say, where porcelain was made. At the same time they seize the occasion to attack the head of the Rouen works, who, they affirm, has attempted to palm off his inferior wares at Paris, to the prejudice of the real Saint-Cloud porcelain. Some side-light is thus thrown on the rivalry of the Poterat and Chicoineau families. In fact, the porcelain made at Lille closely resembles the Saint-Cloud ware. We find this especially in the pieces with a white ground sparely decorated with *lambrequins* of blue. It was, however, evidently made with less care, and we do not find the milky paste which is so great a charm in the Saint-Cloud porcelain. The mark, the letter L, stands for the town of Lille. This factory of soft paste does not seem to have lasted more than twenty years. Late in the century hard porcelain was made for a short time in this town, and it is claimed that it was at Lille that

[1] The extreme limits for this mark are 1712-62, but Chaffers says it was not used before 1730, according to another authority not before 1735. De Frasnay, in a note to his curious little poem in praise of fayence (1735), says: '*le secret du beau rouge n'est guère connu en France que d'un très petit nombre de personnes.*' The point is of interest in connection with the origin of the *famille rose* in China. We may here note that the minute quantity of gold—the source of all these pink and purple colours—is not necessarily introduced in the form of the tin salt, the purple of Cassius. But this difficult question will be best treated in connection with the history of glass.

coal was first used for the firing of porcelain. There is a plate in the Sèvres Museum inscribed '*Faite à Lille en Flandre, cuite au charbon de terre.*' The manager, Leperre Durot, was unsuccessful, however, in an attempt to introduce his new fuel at Paris. In 1786 the Dauphin (he was only five years old at the time) became patron of the factory at Lille, and the mark for the few remaining years of its existence was a dolphin crowned.

CHANTILLY.—We have seen how close to nearly every *Residenz-Stadt* in Germany there sprang up a porcelain manufactory under the patronage of the prince. In somewhat similar way the fashion spread in France. Here the head of each branch of the royal house either took some already established factory under his protection, or promoted the setting up of new works. At this time, I mean at the beginning of the eighteenth century, it was the mark of a loyal subject and good citizen to send the family plate to the melting-pot and to forward the resulting bullion to the mint to be coined into money, in this following the example of the king. This was the case above all in 1709, when Louis was in great want of money. We are told that the Duc D'Antin, 'the perfect courtier,' after a sacrifice of this kind, '*courut à Paris choisir force porcelaine admirable qu'il eut à grand marché.*' So that, in the words of Saint-Simon, the goldsmiths were being ruined, and the makers of fayence and porcelain enriched. This fashion gave, of course, a great stimulus to the establishment of new factories. Thus the head of the great house of Condé became the patron of the works established in 1725 by Ciquaire Ciron at Chantilly. In the letters patent granted in 1735 we are told '*Notre bien aimé Ciquaire Ciron nous a fait représenter que depuis plus de dix ans il s'est appliqué à la fabrique de la porcelaine pareille à celle qui se faisait ancienne-*

ment au Japon.' The prince, Louis Henri,[1] already possessed a remarkable collection of this Oriental porcelain, and some sixty examples of this ware made *anciennement au Japon*, what we now know as Kakiyemon, are still to be seen in the Château of Chantilly.

The earlier porcelain of Chantilly is remarkable in this, that following the example of the enamelled fayence of the day, it is coated with an opaque stanniferous glaze. On this ground, which resembles closely that of the earliest Japanese ware, the peculiar decoration of the Kakiyemon porcelain is closely copied.[2] Indeed, the delicate yet spirited handling of this decoration—I would point especially to two cylindrical vases mounted in silver in the Fitzhenry collection (PL. XXXIV.)—is something that we are quite unaccustomed to in European porcelain. It will be noticed, however, that the over-glaze blue enamel is somewhat heavy in tone, and has evidently given trouble to the decorator.

At a later time the tin enamel gave place to a vitreous glaze similar to that used at Mennecy, and the decoration most in favour was a somewhat poor underglaze blue. On such ware, especially on plates, we find the well-known 'Chantilly sprig,' so often imitated on English porcelain. This pattern is distinguished by a leaf, or rather bract, of peculiar shape at the branching of the twigs, and the design would seem to be of Persian origin. It is interesting to compare it with the very similar sprigs often seen in the decora-

[1] Generally known as the Duc de Bourbon (1710-40). He was an enthusiast for the art of the Far East. An important work on Chinese art was published under his auspices in 1735. He imitated the painted hangings of the East, and even attempted to make Japanese lacquer. After his death, the two brothers Dubois, *épiciers à Chantilly*, migrated to Vincennes, and the Chantilly works were for a time neglected. See Gustave Macon, *Les arts dans la Maison de Condé*, 1903.

[2] Of the many European imitations of the 'Kakiyemon' style the Chantilly is most successful, while the 'Old Japan' was best copied at Chelsea. No European imitation in porcelain of the Chinese blue and white approaches in brilliancy that made in Delft ware in the seventeenth century.

PLATE XXXIV. CHANTILLY

tion of the Medici porcelain. The shield of the Condé family is sometimes found on plates of this ware, the 'baton of cadency' between the lilies so reduced in size as to look like an accidental spot. The mark, a hunting-horn, is carefully painted in red on the older pieces; later on, it is found rapidly sketched in blue under the glaze [1] (PL. D. 53).

MENNECY-VILLEROY.—This time it is not a prince of the blood, but a *très grand seigneur*, whose name we find associated with a group of French porcelain. It was on the estate of the Duc de Villeroy, the son of Louis XIV.'s notorious marshal, at Les Petites Maisons, near Mennecy,[2] that Barbin began to make porcelain in the year 1735. The ware he turned out is remarkable for a translucent body covered by a brilliant and uniform glaze. Many kinds of decoration were tried by Barbin and his successors during the forty years of the existence of these works. This period of time well covers the culminating period of soft-paste porcelain in France, and the Mennecy ware fairly represents the school as a whole in its more modest efforts. The decoration with scattered flowers (*bouquets de style français*) is perhaps the most characteristic design on this ware, but more ambitious work in imitation of Sèvres was attempted later. As at Saint-Cloud and at Chantilly, much attention was given to the little daintily painted 'toys'—patch-boxes, cane-heads, and knife-handles—many of which were copied a little later at Chelsea.

But the reputation of Mennecy rests above all upon its *figurines*—little statuettes, generally brilliantly painted, though some are covered with the plain white glaze only (PL. XXXV.). Others, again, are in a

[1] The porcelain of Saint-Cloud and Chantilly is well represented in the Fitzhenry collection.

[2] Some twenty miles south of Paris, not far from Corbeil.

biscuit of peculiar quality, and these last are at times remarkably well modelled. The mark D. V. (PL. D. 54), doubtless referring to the patron, was maintained up to the time of the removal of the works to Bourg-la-Reine, near Sceaux, in 1773.

We have taken up the porcelain of Mennecy at this point, as the date of its foundation is earlier than that of Vincennes. From its general character, however, we might rather class it as a 'younger sister' of Sèvres, while the other wares we have described, Saint-Cloud, Chantilly, and Lille, form a distinct and earlier group by themselves. These latter are distinguished from the later soft pastes of France, on the one hand, by the predominance of designs either of Oriental origin or derived from the French enamelled fayence of the seventeenth century; on the other, by the restrained way in which the coloured decoration is applied, or even by the total absence of colour, so that, as a whole, these wares form an essentially white group of porcelain.

SMALLER FACTORIES OF SOFT PASTE.—There were already, in Paris, during the early or Saint-Cloud period, some small private works where soft-paste porcelain was made. We hear of one in the Faubourg St. Honoré as early as 1722, belonging to the Veuve Chicoineau. De Réaumur, in 1739, mentions a factory in the Faubourg St. Antoine. Some other porcelain works under the patronage of princes of the blood were erected at a later date. The Duc de Penthièvre took a keen interest in the porcelain made near to his *château* at Sceaux, and this ware, first made in 1751, is distinguished by its high finish and careful decoration. So much cannot be said of the produce of the ducal kilns at Orleans, where both fayence and soft-paste porcelain were made about the middle of the century. Not long after, hard-paste porcelain was made at Orleans by

1

2

PLATE XXXV. 1—SÈVRES, WHITE BISCUIT

2—MENNECY, GLAZED WHITE PORCELAIN

Gérault, but it is doubtful whether all the pieces marked with the Orleans label (of three points) (PL. D. 60) can be attributed to these works rather than to the factory at Clignancourt. The works at Arras, probably the last started with the object of making a soft-paste ware, cannot be traced further back than 1771. Here the Demoiselles Delesseux, with the support of M. de Calonne, manufactured blue and white ware in competition with the neighbouring factory at Tournai.

TOURNAI.—Soft-paste porcelain was first made at Tournai in 1750, and although the town is now in Belgium, the ware there manufactured in the last century forms, with that made at Lille and Arras, a distinct group. The mark of two swords in saltire and four small crosses (PL. D. 48) is derived from the arms of Peterinck of Lille, the founder of the works. At first a tower (PL. D. 47), from the town arms, was also used. Many varieties of decoration were employed here both for blue and white and enamelled ware. But before long the commercial spirit prevailed, and a common ware was turned out in large quantities.

VINCENNES AND SÈVRES.—'*La porcelaine de Sèvres est sans contredit la plus belle qui existe.*' This is the dictum of no less an authority than the late Baron Davillier, and we may doubtless accept it if we limit ourselves to the porcelain of Europe. There can be no doubt but that the work turned out by the royal porcelain works during the first fifteen or twenty years of their existence takes an important, if not an essential, place in the decorative art of the eighteenth century, and that, too, at the best period of that art. As to the intrinsic artistic merit, if such a thing exists, or even to the general decorative value of this ware, compared, for instance, with the fayence of the Saracenic East or

with the porcelain of China and Japan, these are questions which we are fortunately not called upon to answer here.

The *Porcelaines de France*, for that is the name given in the eighteenth century to the ware produced under royal patronage, were first made in the factory established in the riding-school at Vincennes, and at the present day the works are within the confines of the park of Saint-Cloud. It will, however, be convenient to include the whole series under the name of Sèvres.[1]

Our knowledge of the technical side of the subject is derived, as we have seen, from the report that Hellot presented to the king in 1753. For the history of the foundation of the works and the selection of the artists, we are chiefly dependent upon a memoir, written in 1781 for the information of the Government, by Bachelier, an artist who had been attached to the works as painter on porcelain since the year 1748.[2] In this memoir we can trace the troubled history of the years of ill-success and financial difficulties that preceded the final establishment of the royal works at Sèvres—*Tantæ molis erat!* . . .

There were two names that we must always associate with this long struggle: during the earlier period, at Vincennes, Orry de Fulvi, the brother of the *contrôleur général de finance*; and after his death, Madame de Pompadour. It is rather a shady story upon the whole, and at the opening we are reminded of the adventures of the arcanist Ringler at the various German courts. M. de Fulvi, who had long been interested in experiments on the manufacture of porcelain, started at Vincennes with the assistance of

[1] The name is written 'Sèves' in English catalogues of the eighteenth century, and the same form is found sometimes in contemporary French writings. We may compare the favourite signature 'Fédéric' of the Prussian king.

[2] *Mémoire Historique pour la Manufacture, rédigé en* 1781 *par Bachelier*, re-edited, with preface and notes, by G. Gouellain, Paris, 1878.

two worthless and drunken 'experts' (the equivalent of the German 'arcanists') who had been tempted away from Chantilly.[1] After repeated failures and much loss of money, the recipes were stolen from one of those men by an astute and sober assistant, one Gravant, to whom the whole charge of the mixing of the materials was now confided.[2] Other workmen, and further secrets relating to the preparation of the enamels were obtained from Chantilly by means of a free expenditure of money, and a certain success was the result. But meantime the funds of M. de Fulvi are exhausted, and resort must be had to his brother, Philibert Orry, the finance minister. This was in 1745, and we see in this step the first definite intervention of the Government. A company was now formed, with important privileges for thirty years, and by the influence of the minister, Hellot, from whose report we have already quoted, was appointed chemical adviser, Duplessis, the king's goldsmith (or rather silversmith—*argentier*) was placed at the head of the mechanical department, and a few years later, in 1748, Bachelier, to whom we are chiefly indebted for the history of the works, became inspector of painting and gilding. Bachelier was not of much note as an artist.[3] It was to his organising power and energy, however, that the group of artists and sculptors who have given such fame to the porcelain of Sèvres was first brought together.

On his appointment, says Bachelier, his first care was to abandon '*la grossière imitation du Japon*,' and

[1] See the note on p. 286. It would seem that the first successes at Vincennes were, in a measure, dependent upon the temporary breaking up of the factory at Chantilly on the death of the Duc de Bourbon in 1740.

[2] At a later time this man had a contract for the delivery of the paste, the secret of which he preserved, at a fixed rate per pound. In one year he is said to have received for this 800,000 livres!

[3] Such is my general impression, but M. Garnier, I see, speaks highly of his artistic capabilities. Bachelier founded in 1763 a free school of design, one of the few institutions of the old régime that have survived the many changes of government. It still exists as the *École Nationale des Beaux-Arts*.

to furnish the *ateliers* with pictures, models, and prints, '*dans tous les genres, pour remplacer les productions chinoises qu'on y copiait encore.*' [1]

Both M. de Fulvi and his brother died in 1751, the company was broken up, and but for the energy and influence of a certain M. Hultz, of whom nothing further is known, the manufacture would have come to an end. We must remember that on the death of the finance minister, his former enemy, Madame de Pompadour, practically took his place. Her power was at that time at its height (she 'reigned' from 1745 to her death in 1764), so that we may perhaps regard the M. Hultz of Bachelier's memoir as one of the favourite's 'ghosts.'

It was certainly the influence of the Marquise de Pompadour that induced Louis XV., in 1753, to sign the *arrêt* by which the title of *Manufacture Royale de Porcelaine* was conferred on the establishment. At the same time many important privileges were granted. The establishment was now removed to Sèvres, where a plot of ground containing some glass-works, the property of the favourite, was bought for 66,000 livres, and the new factory set up in an adjacent domain that had formerly belonged to the musician Lully. The king subscribed for a quarter of the new capital. The troubles, however, were not yet ended: the workshops were badly built and badly arranged. Finally, in 1759, Louis took over all the shares of the company, which was at that time in liquidation. A yearly grant of 96,000 livres secured the financial position. In all these arrangements we see the hand of the Pompadour, and still more in the keen way in which the business side of the establishment was pushed. At the New Year a sale took place at Versailles, in the palace. The king presided, and fixed the prices of the

[1] By this we get a hint as to the kind of ware made at Vincennes at the commencement, when under the influence of Chantilly.

porcelain. A large purchase of china on these occasions was a sure way to royal favour and promotion.[1]

A good deal of uncertainty hangs over the nature of the early work produced at Vincennes, and no definite mark has been assigned to the factory, before the time when the permission to use the double L was granted, in 1751 or 1753. When, however, the royal cipher occurs without a year letter, there is some presumption in favour of a date previous to the latter year (PL. D. 55).

We should infer from what Bachelier tells us that up to 1748 the designs were chiefly derived from Oriental china. But in addition the following forms and styles were in use in the pre-royal period at Vincennes:—

1. A rage for the production of artificial flowers, especially in plain white ware, existed at one time, and when the Vincennes artists were able to rival the Dresden flowers that had previously been imported, from this department alone was a steady source of income obtained. The flowers first produced were confined merely to small detached blossoms, but in 1748 M. de Fulvi presented to the queen a trophy of white porcelain which surpassed anything yet manufactured. On a base or pedestal of white ware, mounted in gilt bronze, rises a small tree completely covered with blossom of white porcelain, under which stand three female figures of the same material. The whole trophy is about three feet in height.[2] So again in 1750 we hear that the

[1] The account-books of these sales are still preserved. M. Davillier, in his little book on *Les porcelaines de Sèvres et Madame du Barry*, quotes the record of purchases made (at a later date, for the most part) by the royal family, by Madame du Deffand, and by M. de Voltaire. The latter bought, for 120 livres, '*Deux bustes de mondit Sieur, en biscuit.*' Besides this, large sales were made yearly to the trade.

[2] The above description is that given by the Prince de Ligne in his memoirs. In the Johanneum at Dresden there is now to be seen a 'bouquet' which in every way corresponds to the prince's account. The Meissen works for long had

king had ordered similar bouquets of flowers, '*peintes au naturel*,' which were to cost 800,000 livres! This for the famous Château de Bellevue, and for Madame de Pompadour.[1]

2. Much of the porcelain made at Vincennes at this time (1740-50) was decorated with scattered groups of flowers on a white ground, a style then known as *fleurs de Saxe*. These flowers were often in high relief, and in this case they formed a passage to the first group.

3. There exist certain small pieces, chiefly cups and saucers (of the *trembleuse* type, as usual at this time), with a ground of a deep blue. A great vigour and depth is given to the colour (known later as *bleu du roi*) by its somewhat irregular or mottled texture, a result, it is said, of the manner in which it was painted on to the biscuit (it is an underglaze colour) with a brush. We may note that the use of a dark ground for porcelain was exceptional at this time in France. This *bleu de Vincennes* was imitated with some success by Sprimont at Chelsea.

Gravant (he who had the secret of the paste) had before 1753, so Hellot tells us in his report, succeeded in making a paste much whiter than that of Chantilly, so as to allow of a '*couverte crystalline et parfaitement diaphane*' in place of the opaque '*vernix de Fayance*' (*sic*) used by Ciron at that factory. It is indeed important to remember that before the works were removed from Vincennes, the soft paste that we know as Sèvres had already reached its highest development both as regards the materials and the decoration. The most

the credit of this trophy, but it is now acknowledged that it is identical with the present sent by the dauphine, in 1748, to her father, the Elector of Saxony. M. Davillier quotes a curious account from a contemporary memoir describing the difficulties and expenses incurred in transporting this 'bouquet' from Paris to Dresden. Are we, then, to regard it as the actual present given by M. de Fulvi to the queen, or as a duplicate?

[1] See for this and other references to porcelain in the *chronique scandaleuse* of the day, the little book of M. Davillier quoted above.

LIBRARY
OF THE
BOMBAY
BRANCH
OF THE
ROYAL ASIATIC SOCIETY

2

1

3

PLATE XXXVI. SÈVRES

beautiful and characteristic colours were already used with complete mastery, and (certainly by the year 1753) the paintings of the *cartels* had attained a delicacy and finish never surpassed in later times,—this is at least true of certain classes of subjects, the *amorini* and wreaths of flowers, for instance. In proof of this I need only point to certain pieces of turquoise in the Wallace collection (Gallery xv., Case A.), above all to the *soupière* (No. 7), modelled, no doubt, after a silversmith's design. If we compare such pieces to the porcelain of Saint-Cloud and Chantilly, or to the somewhat tentative work turned out at Vincennes itself but a few years earlier, it is difficult to account for this rapid advance, especially at a time of change and financial difficulties. This is certainly the most interesting period—(I mean the years just at the middle of the century)—in the whole history of French porcelain, and we must remember that the change came about precisely at the time (1751) when Madame de Pompadour's influence became predominant.

The free access to the royal factory—the workshops seem to have been regarded at one time as a fashionable lounge—made the preservation of any secret processes very difficult. Bachelier says that '*on vient s'y promener comme dans les maisons royales*,' and he complains bitterly of the loss of time, the dirt, and the accidents caused by the throng of people. A succession of edicts, one as early as the year 1747, was issued, restricting the access of visitors.

When the difficulties connected with the paste and the decoration had been surmounted, a demand arose for protection against the competition of outside works. With this object a whole series of edicts, many of them of a contradictory nature, was issued between the years 1750 and 1780. Of these the special aim was to prevent or hamper the production of porcelain in other works, above all in those within a certain radius of

Paris, or failing that, at least to restrict the use of colour, and especially of gilding, by such works as had to be tolerated.

At the time of the removal to Sèvres the staff consisted of more than a hundred workmen. Duplessis, the silversmith of the king, was intrusted with the modelling and with the general artistic direction, and Hellot, as we have seen, was what we should now call 'scientific adviser.'[1]

Bachelier complains that the nature of the paste and glaze was unfavourable to the production of small figures, '*luisantes et colorées*,' like those of Saxony. He claims to have been the first—this was as early as 1748—to recommend the use of white biscuit to reproduce in porcelain, among other things, 'some of the pastoral ideas of M. Boucher,' and this style, he tells us, 'had a great success up to the time when M. Falconet, to whom the department was intrusted in 1757, introduced a more noble style, one more generalised and less subject to the evolution of fashion.' Falconet was carried off to Russia in 1766, to execute for Catherine II. the great statue of Peter the Great, and Bachelier then took his place. It was under Falconet that the best work was produced in this department, although at a later date such well-known names as Robert le Lorrain, Pajou, Clodion, Pigalle, and Houdon are found upon the books of the Sèvres works. No biscuit statuettes of *pâte tendre* were made after the year 1777.

The models after which the vases and other objects were designed—and each year some fresh form was introduced—are still preserved at Sèvres. We can trace in them, as in the mountings of the contemporary

[1] Some attention was paid to the housing and comfort of the workmen at the new establishment, but Bachelier makes no mention of 'the gardens, cascades, fruit-trees, groves, woods, and a small chase for the artists, who enjoyed to hunt the stag and the wild boar none the less for their sedentary lives in the art palace' (Marryat, p. 414). On the contrary, we are told that in a few years the houses and workshops were already threatening to fall down on the workmen's heads.

PLATE XXXVII. SÈVRES PORCELAIN

furniture, the passage from the *haute rocaille* of the fifties to the simpler forms in favour at the beginning of the reign of Louis XVI.

The fashion of encasing the porcelain of China in metal mounts—for this the large monochrome pieces were preferred—had come in at an earlier period. The contorted forms of the gilt metal undoubtedly bring out by contrast the simple outlines and smooth surfaces of the crackle and celadon vases. In the Jones collection at South Kensington there are some superbly fine examples of this collocation of French and Chinese work. During the sixties and later it became the fashion to combine the ormolu and other kinds of metal-work with the Sèvres porcelain in many new ways, and the *pendules* of the time show ingenious combinations of the two materials in endless variety. It must be borne in mind that the simpler forms that we associate with the reign of Louis XVI. were already asserting themselves several years before the death of his predecessor.

If we examine the choicer pieces in any collection of Sèvres china, we find that the date-marks range within a very small interval of time—a few years on either side of 1760. This narrow limit for the best work is well exemplified both in the Jones collection and at Hertford House. We shall return to this point when describing the turquoise and rose grounds of this time.

Once established at Sèvres under direct royal patronage, the principal efforts of the staff were directed to the designing and the execution of elaborate dinner-services, destined to be presented in turn to the various crowned heads of Europe. As early as 1754 a service was made for Maria Theresa, *la Reine-Impératrice*. In 1758 a service with a green ground and figures, flowers, and birds in cartels was commanded by Louis XV. for presentation to the King of Denmark; in 1760 a *service de table* of two hundred and eighty-one pieces is presented to the Elector-Palatine Karl Theodor, the porce-

lain enthusiast of Frankenthal. In 1764, and again in 1772 and 1779, the *Ministre d'État* Bertin forwarded to the Chinese Emperor Kien-lung, through the medium of the Jesuit missionaries, presents of Sèvres porcelain.[1] In 1768 and 1769 a further grand *service de table, fond lapis caillouté*[2] is presented to the Danish king; in 1775 it is the turn of a Spanish princess, and in 1777 of the emperor. In 1778 the king sends to the Sultan of Morocco a tea-service, and at the same time presents other pieces of china to the Moorish ambassador. In the same year the Empress Catherine ordered at Sèvres the famous service of seven hundred and forty-four pieces, *bleu céleste* (*i.e.* turquoise) ground, decorated with *camées incrustés*. The flowers in this set were painted by Taillandier, and the gilding executed by Vincent and Le Guay. There is a plate from this service at South Kensington: on the centre the letter E, formed of minute flowers, and the Roman numeral II, stand for Ekaterina the Second. To this set belong also the three large *brûle-parfums* vases at Hertford House, and there are other pieces in private hands.[3] The empress disputed the price (328,188 livres) demanded for the service, and a long diplomatic correspondence on the point has been preserved. M. Davillier gives some details of eight other royal services made between this time and the end of the century, among them one with green ground, for Prince Henry of Prussia (1784), of which

[1] M. Bertin was himself a great collector of Chinese porcelain. In the *avertissement* of the catalogue of his collection which was sold in Paris in 1815, we are told that through the medium of the Père Amiot he obtained many choice specimens, some of them direct presents from the Chinese emperor. We have already alluded to Kien-lung's interest in exotic wares, and to the influence of these upon the native decoration.

[2] In the *fond lapis caillouté* the deep blue ground is painted with fine veins of gold, to imitate the pyrites which generally accompanies the native stone (*lapis lazuli*). It was used as early as 1758 (see Wallace collection, Gallery XVIII., Case C.).

[3] As many as one hundred and sixty pieces, it is said, were carried off during a fire at Tsarskoe Selo. Some of these were afterwards repurchased by the Tsar Nicholas.

PLATE XXXVIII. SÈVRES

several of the pieces were jewelled (*ornées d émaux*), and in 1788 a *grand service de table* with vases, cups, pictures, and busts sent to Tippoo Saib, Sultan of Mysore.

It is usual to distinguish the different services, *cabarets* or *garnitures*, by the colour of the ground which is maintained throughout the set. Thus we find the *fond lapis* mentioned above and the *fond vert*, a peculiar shade of green very much admired at the time and often repeated in the lacquered furniture and even in the panels of a whole apartment.

We have already spoken of the TURQUOISE BLUE, but the colour is so important that we will quote more fully the somewhat enigmatical account of it given by Hellot. 'The *bleu du roi* ground, called before the Christmas fêtes of 1753 *bleu ancien* (Oriental turquoise by daylight, emerald or malachite by artificial light), with which his majesty has been so satisfied, is composed as follows . . .' We are then told that we should purchase at the Sieur Moniac, in the Rue Quincampoise, opposite to, etc.;—but it is needless to follow these details —in fact I only quote a few words as a sample of Hellot's innumerable recipes for colours. This blue enamel, for it is an enamel, and not painted *sous couverte* like the old Vincennes blue, is composed of '*aigue-marine*' (some preparation of copper) three parts, Gravant's glaze one part, and of minium one and a third parts. The ingredients are melted together, *à très grand feu*, and the resultant glass finely powdered. 'This powder is dusted through a silk sieve, upon the *mordant* that has been applied to the surface of the already glazed porcelain. The piece is then heated in the "painter's stove" (the muffle). The first layer of colour comes out sometimes crackled, and always irregular (*mal unie*). To make the enamel uniform, the piece is again coated and again passed through the painter's stove.' Not only the strength and quality of the enamel, but its tint also, vary much, even in pieces dating from the best period ;

some examples tend more to green than others. In the more brilliant and intense examples of the *bleu céleste*, to give the colour its old or one of its old names, the ground on close examination appears to be more or less mottled, darker clots, as it were, floating about in a lighter medium. Indeed some such 'texture' seems to be necessary to bring out the full effect and brilliancy in the case of other glazes and transparent enamels on porcelain, and to its absence the dull and 'uninteresting' aspect of much of our modern porcelain may be attributed.

ROSE POMPADOUR.—We have seen that the various shades of pink derived from gold (see the note on p. 284) had for some time been used in the decoration of porcelain, but that the recipes for them were regarded as precious trade secrets. The *rose carnée*, or *Pompadour*[1] (often wrongly called *rose du Barry*), belongs to this class. The credit of its first successful employment as a uniform ground-colour is probably due to the chemist Hellot.[2] This colour was in use at Sèvres for only a short period of years, say between 1753 and 1763. The dated specimens in the Wallace collection range between 1754 and 1759. One is almost tempted to associate its sudden disappearance with some whim of Madame de Pompadour; perhaps having in her possession nearly all that had been made, she wished to 'corner the market.'. The manufacture seems to have ceased *before* her death (1764), and afterwards the

[1] Marryat quotes a passage to the following effect from a little work published at Venice soon after the death of the favourite. Praising the good taste of the '*Madama Marchesa*,' the writer states that this was, above all, manifested in the adornment of her table. All the porcelain was expressly manufactured for her at Sèvres, and was of *a rose colour mixed with gold*. The value amounted to 257,000 livres, and no sovereign possessed a service of equal beauty.

[2] It is found as a ground on pieces bearing the earliest letter-marks, so that it is difficult to accept the statement that it was first made by Xhrouet, a painter of landscapes, in 1757.

PLATE XXXIX. SÈVRES

secret was lost. The *rose carnée* ground is often associated with one of apple-green, but the combination is not a very pleasing one.

Great attention has always been paid to the GILDING at Sèvres. When applied heavily to the handles and feet of vases, it replaces, in some measure, the ormolu mounts. So, when surrounding the little pictures painted on the *cartels* of vases and bowls, or on the centre of plates, this gilding represents in position and design the gold frame of the period. At the time of the reorganisation of the works in 1753 we find, along with Bachelier and Duplessis, a certain Frère Hippolyte, a Benedictine monk, mentioned as the possessor of secret processes of gilding, and he was well paid for his periodical visits to the works. Bachelier, writing in 1781, has a note protesting against the excessive employment of gold. The prohibition of its use at other porcelain factories at this time was based, he says, on 'economic grounds,' that the metal might not be lost for commerce. 'This enormous expenditure of gold,' he protests, 'is the more revolting, inasmuch as it is in bad taste.' Bachelier distinguishes the '*or bruni en effet*' from the '*or bruni en totalité*.' By the use of the first, in opposition both to the unburnished and to the plain polished gold, it was intended to imitate chiselled metal (the ormolu mounts), and this method of burnishing, we are told, should be confined to large vases which are not subjected to any wear and tear by cleaning or otherwise. The gold, in all cases, was simply sprinkled on without the admixture of any flux, and the burnishing was carried out chiefly by women in a special department of the works. This burnishing was effected *au clou*, that is, by means of a stump of iron inserted at the end of a stick. Agate burnishers were not introduced till a later period. Great pressure was required in the earlier

method, resulting in deeply incised lines, and there is less uniformity of surface than where the agate is used.

The JEWELLED SÈVRES has never found much favour in France, and the only name the French have for this decoration—*porcelaine ornée d'émaux*—is not very distinctive. A transparent, glassy, or sometimes an opaque enamel of very brilliant tint is applied in the form of little beads standing out in relief and set in gold mountings. This application of '*appliqués* gems in chased gold setting,' unless used with great delicacy and moderation, produces a tawdry and overloaded effect, above all when applied upon coloured grounds. But when these little 'paste-jewels' are set upon the soft white of the Sèvres *pâte tendre* the result is sometimes very pleasing. On a cup and saucer belonging to Mr. Currie, now at South Kensington, the ruby and turquoise jewels are connected by branches of gold overlaid with a transparent green enamel (PL. XL.). On the other hand, on a large ewer and basin of turquoise, with a decoration of gold, in the 'Londonderry Cabinet' at Hertford House, which has the date-letter for 1768, the original design is capriciously overlaid by a series of jewelled chains which (if we are to trust the date-mark on the ewer) must certainly have been added at a later time. Indeed the manufacture of this jewelled ware seems to have been confined to the years 1780-86.

When a school of painting was first established at Sèvres, it was to the fan-painters and to the miniature-painters in enamel that Bachelier turned for assistance, and we can detect the mannerisms peculiar to these two schools in the decoration of some of the earlier pieces made at Sèvres.

MARKS.—By the royal decree of 1753, from which

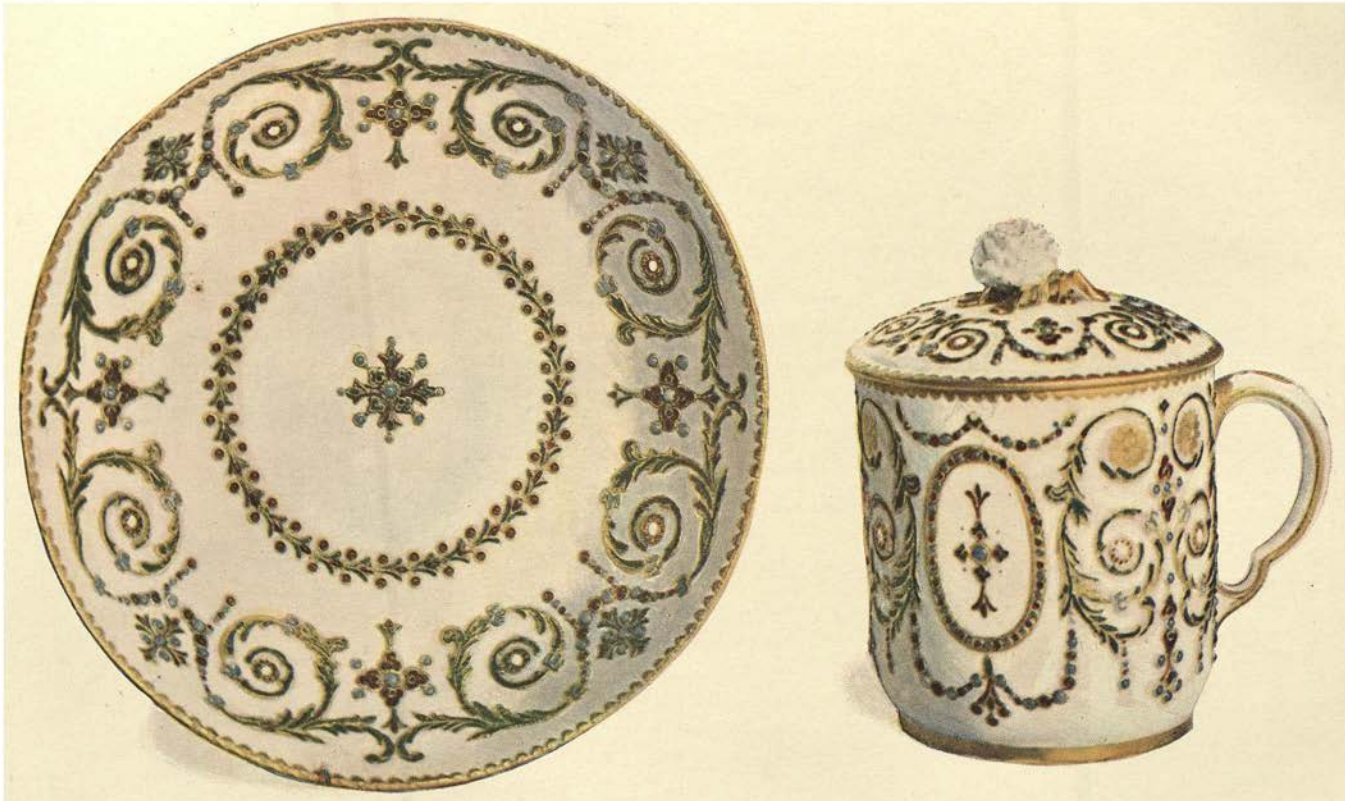


PLATE XL. JEWELLED SÈVRES

we have already quoted, it was ordered that all pieces should be marked with the well-known royal cipher, the double L, and that a letter-mark indicating the year should be added (PL. D. 56). The single letters of the alphabet carry us from 1753 to 1776; after that double letters were used till 1793, when the king's initial was replaced by the letters R. F., with the addition of the word Sèvres. A mark of this latter kind was in use till the end of the century, after which time no more soft paste was made.

Each artist marked his work with a monogram or a private sign, often suggested by a play upon the syllables of his name, as in the case of the canting arms of heraldry. For example, '2000' (vingtcents) was adopted by Vincent, the famous gilder; a branch of a tree by Dubois; and, more strangely still, a triangle, the sign of the Trinity, by an artist named Dieu. These marks were placed underneath, or by the side of, the royal cipher. The marks of more than a hundred artists have been identified from the records kept at Sèvres—painters of flowers, garlands, landscapes, marines, genre-subjects, and finally gilders. A complete list of these men, with their marks, may be found in Garnier, Chaffers, and other writers on the subject.

The manufacture of true kaolinic porcelain was begun in 1769, but the soft paste continued to be made for another thirty years, side by side with the new ware. It was not till the year 1804 that it was finally abandoned by Brongniart, the new director. He found the soft-paste ware unsuitable for the big pieces now ordered by the Imperial Government. The paste was difficult to work, the preparation was expensive, and the dust formed both from the paste and from the lead glaze was injurious to the health of the workmen. One or two attempts have since been made at Sèvres to revive the old ware, but they have fallen through in every case.

Brongniart, in 1804, to provide funds for the impoverished works and to pay the arrears of wages to the workmen, threw on the market the large stock of plain white soft paste that had accumulated in the magazine. Now at that time there were in Paris many skilled porcelain painters, some of them ex-employés at Sèvres, and others, men who made a living by painting on the plain ware sent from Limoges and other factories. These 'chambrelans' (they painted at home, *en chambre*, and corresponded to our English 'chamberers') were now employed by the dealers who had eagerly bought up the ware that Brongniart had parted with.[1] They painted and gilt this white ware in imitation of the Sèvres porcelain of the best period so successfully that the services they turned out have found their way into royal collections. This ware, in fact, forms a group by itself, quite apart from the later imitations of the *pâte tendre*, which, in every degree of merit and demerit, are now found in the china-shops of Europe and America. M. Garnier points out three signs by which this pseudo-Sèvres may be recognised: 1. The green prepared from the newly introduced chromium is of a warm yellowish tint, and displays none of the submetallic tints so often to be seen in enamels coloured by copper, as in the *famille verte* of China. 2. The gold on this bastard ware, burnished with an agate polisher, differs in quality of surface from the old gilding worked *au clou*. 3. The date-marks and painters' monograms were copied at hazard from the old pieces—at that time no list of these marks had been made public—so that, for example, the monogram of a gilder may be found on a piece decorated in colours only.

[1] Much of it found its way to England, and was there decorated in the old Sèvres style, both in London and in the West.

CHAPTER XVIII

THE HARD-PASTE PORCELAIN OF SÈVRES AND PARIS

THE soft paste of Sèvres, even during the period of the fifties and sixties, when the most exquisite ware was being made, seems always to have been regarded somewhat as a make-shift, to be employed until the materials for making a true porcelain should be discovered in France. For it was the ignorance of the true nature of kaolin, and where to look for it, that so fortunately delayed its introduction at Sèvres. As early as the Vincennes days, one of the Hannongs of Strassburg had offered to sell his secret, and this offer was repeated at a later time by himself and by his son. At Sèvres, before 1760, two German workmen were retained to teach the Saxon process, but the materials had still to be obtained from Germany.

Meantime Macquer, who had succeeded to the post of scientific adviser on the death of Hellot, had been experimenting on his own account, and above all encouraging others to search for the precious white earth within French territory. At length, in 1760, some samples were sent from Alençon, from which a true porcelain was made, but of poor quality and of a grey colour. Outside the Sèvres works the younger Hannong had set up a factory at Vincennes, and the Comte de Brancas Lauraguais, whom we shall meet with again in England, had by 1764 begun his experiments and

his search after deposits of kaolin. There still exist a few portrait-medallions moulded in hard porcelain, which, on the ground of the letters B. L. engraved on the back, have been attributed to that energetic nobleman.

The introduction, however, of the hard-paste porcelain at Sèvres dates from the discovery, in 1768, at Saint-Yrieix, near Limoges, of those famous deposits of kaolin which have ever since that time been the main resource of the French porcelain industry.[1] Before the end of the year 1769 Macquer was able to show to the king the first samples of this new ware. The hard paste made for some years after this date was not of the 'severe' type adopted later on. Not only did it contain as much as 9 per cent. of lime, but, the kaolin employed being less pure, contained probably a good deal of mica—in fact, this first type of French hard paste approached in composition that of the Chinese. It is even more important to note that the glaze used at the same time was of an entirely different nature from the pure felspathic covering afterwards adopted. It was composed of Fontainebleau sand 40 per cent., potsherds of hard porcelain 48 per cent., and chalk 12 per cent. As a result, it was possible to decorate the surface with brilliant translucent enamels of some thickness.

It was the introduction of the felspathic glaze in 1780 that gave the final blow to the effective decoration of Sèvres porcelain. This glaze is made by simply fusing a natural rock (pegmatite) consisting of a mixture of potash felspar with a small quantity of quartz. The ease with which this glaze can be prepared, its hardness and uniformity of surface, led to its universal adoption not only at Sèvres but in the porcelain works of the Limoges district that have for the last hundred years supplied France with ordinary domestic wares—for such

[1] For a detailed description of these deposits and their geological relations, see Brongniart's great work.

use its hardness renders it eminently suitable. But, as we have said, this combination of refractory paste and hard glaze is incompatible with any brilliancy of decorative effect, the enamel colours are quite unable to incorporate themselves with subjacent glaze, they lie dull and dead on the surface, and the faults of the German porcelain are exaggerated.

So with the paste, a much harder and more refractory type was introduced at the beginning of the next century, and (apart from the recent partial introduction of a milder type for special purposes) this type has remained in use to the present day. The lime in Brongniart's new paste was reduced to 5 per cent., while the amount of kaolin (65 per cent.) is probably greater than in any other porcelain. There has been a reaction lately at Sèvres against this refractory ware, but the old formulas are still employed for the porcelain made for practical domestic use. When, however, brilliancy of effect and artistic decoration are aimed at, a completely new type both of paste and glaze has been in use since the year 1880, and concomitantly with the imitation of the Chinese monochrome wares, an attempt has been made to follow as closely as possible the pastes and glazes of the Chinese. M. Vogt, the present technical director at Sèvres, who has had so much to do with these changes, gives the following formula for the composition of the new porcelain: kaolin 38 per cent., felspar 38 per cent., quartz 24 per cent. The lime, it will be seen, has been completely eliminated from the paste; on the other hand, the glaze contains as much as 33 per cent. of the *Craie de Bougival.*

It would be a dreary task to enter with any detail into the history of the Sèvres works during the hundred years following the first introduction of the hard paste. This period is associated in most minds with the colossal vases that are to be found in so many of the palaces and museums of Europe. To judge from these examples,

it would seem that the chief object both of the design and the decoration was to conceal as far as possible the nature of the material used in their composition. You have first to persuade yourself that you are looking at something made of porcelain: once convinced of this, you marvel at the technical difficulties that have been overcome in its manufacture, but what it never even occurs to one to look for in these monstrous vases, is any trace of that beauty of surface and brilliancy of decoration that we are accustomed to associate with the substance of which they are composed.

The 'Medici Vase' now in the Louvre is probably the earliest of this long series. This vase dates from the year 1783, and it is nearly seven feet in height. But it was in the pseudo-classical style of the empire, when encouraged by Napoleon's love of the gigantic, and by his desire '*à faire parler la porcelaine*,'[1] that this new application of porcelain found its full expression. It is then that we find vases, candelabra, *surtouts de table* and clocks, in styles distinguished as Egyptian, Etruscan, Imperial, and Olympian. After this we can follow the decline of taste in the succeeding *régimes* till, with the total extinction of all feeling for harmony of colour and unity of composition, we are landed—in the reign of the 'bourgeois king'—in the style or absence of style which is the French equivalent of our 'Early Victorian.'

There is one name above all others that is associated, at Sèvres, with this long period, that of Alexandre Brongniart, who was director of the works from the year 1804 until his death in 1847. The son of a well-known architect, and himself a fellow-worker with Cuvier, he attained some distinction both as a geologist and as a

[1] Napoleon at one time sent Daru to Sèvres to convey to Brongniart, in the most lively terms, his dissatisfaction with what he called the simplicity and tameness of the designs in use at Sèvres. Every piece should, he protests, '*dire quelque chose.*' Every plate should record glorious deeds, the capture of the enemy's towns, or the triumphant return of the victors.

chemist. It was indeed from the point of view of a man of science that he approached the subject of ceramics,—as a geologist to examine the position and stratigraphical relation of any material suitable for fictile purposes, as a chemist to analyse these materials and to discover fresh metallic combinations suitable for glazes and enamels.

It was at this time, and chiefly under the influence of Brongniart,[1] that the palette of the enameller was enlarged by the introduction of so many new colours, the employment of which gives a new *cachet* to the decoration of the nineteenth century. Perhaps the most important advance was in the employment of oxide of zinc in the flux, by means of which the colours of many metallic oxides are developed and sometimes altered. The green derived from chromium is essentially a nineteenth century colour, and as it resists the highest temperature this green can be used, like the cobalt blue, as an under-glaze colour. From the chromate of lead an orange-red is obtained—the *rouge cornalia*, a crude and dangerous colour, and one that does not withstand high temperatures. An orange-yellow from uranium, and a deep and uniform black from iridium, were also introduced at this time or not long afterwards. The 'English pink,' the lilac tint so extensively used in the transfer-printing of earthenware, was successfully imitated by adding a small quantity of oxide of chromium to a flux containing oxides of tin, lime, and alumina. The celadon green of Sèvres is derived, not from the protoxide of iron, but from the sesqui-oxide of chromium, with the addition of a minute quantity of copper.

Brongniart's great work, the *Traité des Arts Céramiques*, still remains our main authority on the technical and scientific side of the art of the potter, and

[1] We must, however, place some of these discoveries to the credit of the staff of the Viennese factory, and Dihl again, the chemist of the porcelain works in the Rue de Bondy, has a claim to others.

it was he who, by establishing the museum and organising the laboratories at Sèvres, made that town a centre for all who are interested not only in the special branch of porcelain, but in the whole field of ceramic art. The position established by him has been well maintained by his successors, by Salvétat, by Ebelmen, by Deck, and at the present time by MM. Lauth and Vogt on the technical side—above all by Édouard Garnier, the present director of the Sèvres Museum.[1] These men have succeeded, in spite of much opposition, in again bringing the national manufactory of porcelain at least on to a level with the artistic movement of the day.

In tracing the history of the Sèvres porcelain during the last hundred years and more we can find at least one interesting aspect—we can follow the steps by which the ware has responded to the social and political changes that have followed one another in France during that time. The affectation of simple and homely tastes, and the sentimental tone fashionable in society during the years preceding the Revolution, are reflected in both the forms and the painting of the ware then made. The classical spirit that already in the time of Louis XVI. had found a place alongside of these idyllic aspirations somewhat later, under the lead of David, ruled every form of art. The various phases of the Revolution are reflected in the decoration of the porcelain, which even became a means of political propaganda. At the Hôtel Carnavalet, the museum at Paris consecrated to the history of the city, the political changes of this period may be traced in a series of plates and cups, some of them of Sèvres porcelain, decorated with emblems and allegorical figures relating first to the liberal monarchy of the early years of the Revolution, and then in the sterner days of the Convention (when indeed the existence of the works was only saved by the presence

[1] The death of M. Garnier occurred since the above was written.

of mind of the minister Paré) to the patriotic efforts of the leaders, and to the successes of the republican armies. Portraits of the heroes of the national assemblies and of the clubs, surmounted by caps of liberty and framed in arrangements of pikes and drums, replaced the nymphs and flowers of an earlier period, and even the guillotine, it is said, has found a place in the decoration. A few years later the military element was even more predominant. Eagles and thunderbolts, surrounded by trophies of war, battle-scenes and the entry into Paris of the victorious legions, commemorate the conquests of Napoleon.

After the Restoration the decoration of the gigantic vases, each new one overtopping its predecessor, became more and more pictorial. To obtain a better field for this pictorial display the greatest pains were taken to produce large plaques of porcelain, some as much as four feet in length, on which a school of accomplished artists painted laborious reproductions of famous pictures, ancient and modern. Not a few of these enamel-painters, at this time, came from Geneva, and some of the ablest were ladies. Many remarkable specimens of this misdirected skill may be seen in the Sèvres Museum, and also in a room of the picture-gallery at Turin.

Under the republican *régime* that succeeded the revolution of 1848, it was again proposed for a moment to sever the connection with the State, but with the establishment of the second empire a fresh life was given to the manufactory, on the appointment of Dieterle, an artist of repute, to the directorship. Some new developments were now attempted, especially in the introduction of coloured pastes. It was only after many fruitless attempts that any results were obtained by this new system. It is indeed a process quite foreign to the nature of porcelain, and even when technically successful the result

is far from satisfactory. At a later time, however, the experience gained by the experiments of Salvétat enabled a potter of great skill and some feeling for art to employ the coloured pastes with greater simplicity and better effect. M. Solon, since so well known in England, was the most successful worker in this material. The decoration in his hands took the form of a white slip, or *barbotine*, laid on a coloured ground. After firing, the light and shade of the design is brought out by the varying thickness of the now translucent coating, which allows more or less of the coloured ground to be seen through it. In spite of its delicacy and refinement the effect of this work is somewhat effete, both in style and colour. In inferior hands, working with poorer material, the result is deplorable.

At the present time, after experiments with many materials—the crystalline glazes made with bismuth were at one time in favour—it is to the production of artistic effects by means of single glazes that the greatest attention is given at Sèvres, following more or less in the lines of the *flambé* wares of China. Not long since, a proposal was again made in the Chamber of Deputies that the support of the Government should be withdrawn from the factory. It is said that a timely report in an English paper to the effect that, in such a case, the works would be run by an Anglo-American syndicate, had not a little to do with the defeat of this motion.

Lesser Parisian Factories of Hard Paste.—In spite of the numerous edicts and proclamations by which it was attempted to maintain the monopoly of the royal works at Sèvres, there were in Paris, in the time of Louis xvi., a number of private factories, some of them under the patronage of members of the royal family.

It was in Paris that Brancas Lauraguais, as early as 1758, made his experiments with kaolin, and here, in the Saint-Lazare district, one of the Hannong family (Pierre Antoine, of the third generation, the same who had lately failed at Vincennes) made porcelain after the German style, perhaps before 1770. These works were patronised at a later day by the king's brother, the Comte d'Artois.

Again, in 1773, one Locré started in the Rue Fontaine au Roi the '*manufacture de porcelaine Allemande de la Courtille.*' His marks of arrows (PL. D. 59), torches, or later, ears of wheat, crossed in imitation of the Saxon swords, are found on ware of some artistic merit.

But perhaps the most remarkable of the Parisian factories was that started at Clignancourt, in 1775, by Pierre Deruelle, under the powerful protection of Monsieur (the king's brother, afterwards Louis XVIII.). The royal edicts (as indeed was often the case elsewhere) against the use of gold were ignored in this case, and the Sèvres ware—the simpler forms then in fashion—was cleverly imitated. The earlier mark, a windmill (PL. D. 61), pointed to the famous *moulin* on the neighbouring Montmartre. At a later time the letter M, under a crown, referred to the royal patron.

The queen herself took under her patronage the factory started in 1778 by Lebœuf in the Rue Thiroux. This is the '*Porcelaine de la Reine*,' marked with the letter A under a crown (PL. D. 62), often decorated with leaves and little sprigs of the *barbeau*, the cornflower, then so much in fashion. These flowers, indeed, may be found on many other wares, English and French, about this time.

The Duc d'Angoulême was the patron of the works started in 1780, in the Rue de Bondy. It is noteworthy that this factory survived, still under the original founders, Guerhard and Dihl, to the days of

Louis XVIII. Dihl was, as it were, a forerunner of Brongniart, being the first potter in France to employ the newly discovered colours derived from rarer metallic bases. The Rue de Bondy factory had also the credit of producing elaborate copies of pictures on plaques of porcelain before such things were attempted at Sèvres.

The factory established in 1784 at the Pont aux Choux is chiefly remarkable for the patronage of the Duc d'Orléans, Philippe Égalité. Starting with the brother of Louis XIV., whose arms are found on gigantic vases of 'old Japan,' this was the fifth member of the Orleans family who had interested himself with porcelain, in one way or another.

I have only mentioned a few of the more important Parisian factories. Franks, in his *Catalogue of Continental Porcelain*, gives a list of seventeen works. Examples of most of these may be found either in the Franks collection or in that of Mr. Fitzhenry.

After the Restoration the work done in Paris became more and more confined to the decoration of porcelain made elsewhere. A special industry—for such it may well be called—was the imitation of older wares, both Oriental and European. For this somewhat ambiguous work the Samson family has acquired a European reputation.

At the present day many more or less amateur potter-artists are working in Paris. Specimens of their work may be studied in the yearly *salons*. It is no uncommon thing to see—in the neighbourhood of the Panthéon, for instance—a notice in a window pointing out to those interested, that a kiln for porcelain or fayence will be fired at such and such a date.

During the last hundred years Limoges has become more and more the centre of the porcelain industry of France. A very hard, refractory porcelain is here made from the excellent kaolin of Saint-Yrieix, and this ware

not only occupies in France the position of our Staffordshire earthenware and semi-porcelain, but competes with these wares in the markets of the world. One of the largest works was started some years ago with American capital, and the United States, until lately, drew their principal supplies of porcelain from this district.[1] It is to a chemist attached to one of these factories, to M. Dubreuil, that we are indebted for our best account of the technical and chemical processes employed at the present day in the manufacture and decoration of porcelain (see the work quoted on p. 15). At Limoges there is a ceramic museum, the most important in France after that at Sèvres, the contents of which have been described by M. E. Garnier in a catalogue which, as far as continental porcelain is concerned, has, so far, no rival.[2]

[1] The use of a bone-paste ware of the 'Spode' type is, however, now prevalent not only in many parts of the continent, but porcelain of this kind is now largely made in the United States.

[2] Unless it be in the catalogue drawn up by Sir A. W. Franks for his collection of continental china. The ceramic collection in the Hamburg Museum has also been very thoroughly catalogued by Dr. Brinckmann.

CHAPTER XIX

THE SOFT AND HYBRID PORCELAINS OF ITALY AND SPAIN

THE porcelain made in Italy in the eighteenth century is not of much importance either from a technical or an artistic point of view. With the exception of the Capo di Monte ware and its imitations, examples are rarely found in English collections. On the whole the decoration is poor in effect, and closely follows in the wake of the German wares. This is the case at least with most of the porcelain made in the north of Italy. Following, probably unconsciously, the example of the early Medici ware, the refractory element in the eighteenth-century porcelain of Italy has generally been found in a natural kaolinic clay which here replaces the quartz-sand and the lime of the French soft paste, and it is this peculiarity in their composition which led Brongniart to form a special class for what he called the hybrid pastes of Italy.

VENICE.—There is, as we have seen, strong evidence that porcelain was made in Venice in the sixteenth century, but such evidence is, unfortunately, only documentary. We are in almost as bad a position when we come to the ware manufactured in the city, perhaps as early as 1720, by the Vezzi, a family of lately ennobled goldsmiths (see Sir W. R. Drake, *Notes on Venetian Ceramics*, London, 1868, privately printed). This

1

2

3

4

PLATE XLI. 1 AND 2—VENETIAN, BLUE AND WHITE

3—MEISSEN

4—FRANKENTHAL, LILAC AND GOLD

ware was made by Saxon workmen with clay obtained from Saxony. To this factory, however, we can safely attribute the tall cup and saucer, with the arms of Benedict XIII. (1724-30), and the mark 'Ven[a]' (PL. D. 63), in the Franks collection (No. 446).

At this time Hunger, the Saxon painter and gilder, was in Venice. He was already back at Meissen in 1725, and Dr. Brinckmann thinks that he may have brought back from Venice the process of passing the gilding through the muffle, which about that time replaced, at Meissen, the older plan of 'lac-gilding.' The Vezzi works were closed in 1740, and not till 1758 do we hear of fresh attempts to imitate the Meissen ware. This time it was a Saxon family driven out from Meissen by the war, one Hewelcke and his wife, who set up a short-lived factory in which they attempted to make porcelain '*ad uso di Sassonia*.'

It was probably with the assistance of Hewelcke that Geminiano Cozzi in 1764 established the porcelain works where (as we learn from the report drawn up by the *Inquisitor alle Arti* a few years later) he gave employment to forty-five workmen. Cozzi made porcelain '*ad uso di Giappone*,' much of which was exported to Trieste and the Levant.[1] This ware, decorated in Oriental style, must have been made exclusively for the trade with the East, for, to judge from the specimens in our museums, it was rather the ware of Meissen than that of Imari that Cozzi took as his model. We find on his porcelain small views, especially coast-scenes and ports, outlined in black and gold; again, on tea- and coffee-services, flower-pieces and *chinoiseries*. He turned out also some biscuit and glazed statuettes of considerable merit. Cozzi's factory survived until 1812. An anchor in red, larger

[1] It is curious to find Venice at this time exporting porcelain to the East, for at an earlier period it was through this town that so much Oriental porcelain and fayence reached Europe.

than that used at Chelsea, and of a different shape, is the mark usually found on this china[1] (PL. D. 64).

LE NOVE.—A Venetian family, the Antonibon, had early in the eighteenth century established an important manufactory of majolica at Le Nove, near Bassano. Later on they turned their attention to porcelain and, after the year 1760, Pasquale Antonibon produced some successful ware marked with a star (PL. D. 65). One or two well modelled and carefully finished specimens of this porcelain at South Kensington show the influence of both Meissen and Sèvres. These works were in operation as late as 1825.

VINOVO.—In the royal castle of Vinovo or Vineuf, near Turin, some unsuccessful endeavours to manufacture porcelain were made with the help of one of the younger Hannongs of Strassburg. A Turin doctor, Vittore Amadeo Gioanetti, who had already made numerous experiments with the clays and rocks of the district, met with better success about 1780. The paste of this ware contains a considerable amount of silicate of magnesia, obtained from a deposit of magnesite discovered in the neighbourhood by the doctor.[2] This hybrid ware is more easily fusible than a true porcelain, but it resists well rapid variations of temperature. The usual mark is the letter V surmounted by the cross of the house of Savoy (PL. D. 66).

CAPO DI MONTE.—Here in the northern suburbs of Naples, just beneath the Royal Palace, an important

[1] This Venetian china, either of hard paste or of the hybrid class, must not be confused with the opaque glass, the *lattimo*, or, more properly, *Latisuol*, ware, made about 1730 in imitation of porcelain both at Murano, and also near Bassano.

[2] Compare with this the use of steatite, a magnesian rock, from the Lizard, at Worcester, and at other West of England factories. The Chinese have also at times made use of a steatitic rock.

factory of soft-paste porcelain was established in 1742. Don Carlos, of Bourbon-Farnese extraction, had recently exchanged his dukedom of Parma for the throne of the Two Sicilies. In 1738 he had married a Saxon princess, but there is little sign of any German influence either in the design or composition of the ware made at his new porcelain factory at Capo di Monte. Like his cousin at Versailles at a later date, he took the keenest interest in the sale of his porcelain. An annual fair was held in front of the palace, and a large purchase there was a sure passport to the favour of the king, who is even said to have worked as a potter himself. When in 1759 Don Carlos succeeded to the throne of Spain as Charles III., he, as it were, carried his porcelain works with him, taking away the best workmen, so that little of interest was made at Naples after that date.

To this earlier period belong the plain white pieces often in imitation of sea-shells, or again resting on a heap of smaller shells moulded probably from nature (a very similar ware was made at Bow and other English factories). We find also highly coloured statuettes and groups of figures. But the name of Capo di Monte is associated above all with another style of decoration. The surface of the ware in this case is covered by groups of figures, mythological subjects by preference, and by vegetation, moulded in low relief and delicately coloured. This was the ware imitated at Doccia in later days, and also, it would seem, at Herend, in Hungary. But perhaps the most characteristic pieces then made at Naples are the little detached figures, generally grotesques, delicately modelled and painted (PL. XLII.).

In this Capo di Monte porcelain we may note generally the prevalence of extreme rococo forms. The glaze of the white ware has a pleasant warm tone resembling that of some of the Fukien porcelain, which may in part have served as a model.

When the factory was re-established first at Portici and then again at Naples, a very different influence is perceptible. There is a service at Windsor presented by the King of Naples to George III. in 1787, decorated with '*peintures Hetrusques*,' that is to say, with reproductions of antiques in the Museo Borbonico. This later ware generally bears as a mark an N surmounted by a crown.

DOCCIA.—The interest of the factory at Doccia, some five miles to the west of Florence, where majolica and many varieties of porcelain have been made for the last one hundred and seventy years, centres round the Ginori family. The founder of those works, the Marchese Carlo Ginori,[1] who belonged to an old Florentine family, was sent, in 1737, by the Grand Duke on a diplomatic mission to the Emperor Francis I. He had already, at his villa near Sesto, succeeded in making some imitations of Oriental porcelain, and on his return from Vienna he brought back with him the arcanist Carl Wandhelein. With his assistance Ginori was able in a short time to turn out some well modelled statuettes. The paste, however, was not very white or uniform, and the larger pieces are generally disfigured by fissures. To this time belongs probably a large statuette of a crouching Venus at South Kensington. This kind of ware had its inspiration, no doubt, in the ambitious attempts to replace the works of the sculptor with which the Meissen factory was occupied about this time. Ginori was soon after appointed Governor of Leghorn,[2] and he is said to have despatched a vessel to China expressly to bring back the kaolin of that country.

[1] Marryat (p. 451) gives an interesting account of this enterprising man. He was occupied also in the draining of marshes, the improvement of agriculture, and the promotion of commerce.

[2] With this appointment we may perhaps connect the elaborate trophy of white porcelain at South Kensington. The figures of slaves on which this is supported are modelled after those of Tacca on the celebrated monument at Leghorn. This piece is attributed, however, to the Capo di Monte factory.

PLATE XLII. 1, 2 AND 3—CAPO DI MENTE.
4—DOCCIA

The works at Doccia and the schools and museums attached to them are frequently referred to by our eighteenth century travellers. There appears to have been a period of decline, as was not unnatural, during the Napoleonic wars, but by the early part of the nineteenth century the factory at Doccia had become one of the most important in Europe. On the death of the founder, in 1757, the works had been carried on by his son Lorenzo, and he in his turn was succeeded by Carlo Leopoldo, who introduced a new type of furnace. This remarkable dynasty of noble potters has carried on the Doccia works to the present day.

Beside a large outturn of enamelled fayence and of hard porcelain, *ad uso di Francia*, a milder or hybrid type of paste has been largely made, and the materials have been obtained from many sources, native and foreign. The dealers' shops in Italy have been inundated with imitations of the old majolica, and with the help of moulds obtained from the moribund Capo di Monte works, close imitations of that ware have long been made at Doccia. Indeed the bulk of the porcelain decorated with mythological figures in low relief (more especially the larger pieces so often seen in dealers' shops and in salerooms) has its origin in Tuscany rather than at Naples.

The mark, a star formed of two superimposed triangles, is derived from the arms of the family, but this mark has often been omitted.

In the eighteenth century many kinds of ware were imitated; the plain white porcelain is, however, the most interesting, such as the already mentioned statuettes and the imitations of the Fukien ware, specimens of which were sent by Sir Horace Mann to Walpole in 1760. This kind of ware is whiter and of a more dead aspect than that made at Naples and at Buen Retiro. In the Franks collection are specimens from an interesting series of small medallions with

portraits of the grand ducal and other families, in white relief on a grey-blue ground. These were made at Doccia, probably towards the end of the eighteenth century.

SPAIN

BUEN RETIRO.—During the sixteenth century we have frequent references to the importation of Oriental porcelain into the Peninsula—the white ware of Fukien is said to have been above all prized. In the seventeenth century we find Portuguese travelling merchants selling porcelain at the fair of St. Germain, and we hear that their stalls were visited by people of quality from Paris. (*Cf.* p. 230.)

But this ware of the Far East has left little or no mark upon the fayence or porcelain made in Spain. In the former, at least, the influence of the nearer Saracenic East has always remained predominant.[1] The porcelain fever that raged at times in the rest of Europe seems to have left Spain untouched until the advent of the half-French, half-Italian king in 1759. Charles III., who abandoned his Neapolitan throne in that year to succeed his brother as King of Spain, was on the whole the best of the many descendants of Louis XIV. who ruled in France, Spain, and Italy in the eighteenth century. We have seen that he was an enthusiastic potter, and his first care, even before leaving Naples, was to see to the transhipping to Spain of practically the whole of the staff, to say nothing of the moulds and other appliances in use at the Capo di Monte factory. Don Juan Riaño, in his *Handbook of Spanish Arts*, gives the names of nineteen modellers and fourteen painters who sailed for Alicante in a vessel specially

[1] The word 'china' is sometimes used in Spain in the same vague sense as in England, but the name seems only to have come in with the Staffordshire ware so largely imported in the last century. Note, however, that the factory at Buen Retiro was known as La China.

chartered for this purpose. Among these Italian emigrants two names are worthy of mention—Buonicelli—he and his son after him superintended the new works till the end of the century—and Gricci (there were three men of this name among the modellers), the designer of the famous porcelain chamber at Aranjuez.

The new factory, known as La China, was erected in the garden of the Buen Retiro, a palace in the suburbs of Madrid. Here for the next thirty years, that is until the death of Charles III. in 1788, supported by a large yearly grant, and surrounded by the strictest secrecy, was made the porcelain destined for the decoration of the royal palaces and for presentation to other courts. Only in the time of Joseph, Napoleon's brother, and of Ferdinand VII., was the ware from the royal works allowed to come into the market, and this was at a period of decline. The Buen Retiro gardens were the scene of desperate fighting between the English and the French in the year 1812, during which the porcelain works were completely destroyed.

We hear, at the commencement, of quarrels between the Spanish and Italian workmen, and of breakdowns in the kilns. But Charles and his director, Buonicelli, must soon have surmounted the preliminary difficulties, for already, during the years 1763 to 1765 (as we learn from an inscription on one of the slabs), Giuseppe Gricci was occupied in decorating the porcelain chamber, the famous *Gabineto* of the palace at Aranjuez, which surpassed in magnificence the earlier room of the same description at Portici. The large plaques which surround this chamber are decorated with groups of Japanese figures in high relief, carefully modelled and painted. Between these plaques rise tall looking-glasses brought from the king's new glass-works at La Granja, and the porcelain frames of these mirrors are elaborately decorated with fruits and flowers. There is another of these porcelain cabinets in the Royal Palace at Madrid;

this time the plaques are ornamented with children in high relief. Here and in the other Spanish palaces, at Aranjuez, at La Granja, and at the Escurial, may still be seen vases of porcelain from Buen Retiro, some of them six or seven feet in height. These vases are often set in gilt bronze mountings and filled with branches of porcelain flowers.

Among the specimens of Spanish porcelain that we see in English collections, it is the plain white ware that interests us most. This is of a very beautiful warm tint, and the vases are surrounded by *amorini* in full relief among flowers, or again by sea-shells modelled from nature, as in the case of the Capo di Monte ware. But many other things were made—imitations of Wedgwood, for example, white relief on a dull blue ground.

In its last days the factory fell under French influence, and an attempt was made to imitate the hard paste of Sèvres with the aid of native clays. It would seem that some of the paste made at an earlier time was of a hybrid nature, containing magnesia, like that of Vinovo.

The factory was re-established by Ferdinand VII. after his restoration, at the Moncloa, near Madrid, but with little success. Close at hand, at La Florida, near the well-known Paseo, an attempt has been lately made to revive the works. Zuluaga, the famous metal-worker, has interested himself in these new works, but the ware made is of little interest.

The fleur-de-lis of the Bourbons, generally painted in blue under the glaze, is the only mark that need be mentioned; it is probable that this mark was already in use at Naples (PL. D. 67).

At Alcora, in the province of Valencia, the Conde d'Aranda had established an important factory of artistic fayence as early as the year 1725. Aranda played no small part in the short-lived revival of pros-

perity in Spain that followed the accession of Charles III. In 1764 we find him sending to Dresden for an arcanist, and in 1774 he obtained the services of a French expert, one Martin, from Sèvres. Each in his turn covenanted with the count to make true porcelain, and we are told that he sent specimens of his ware to his friend Voltaire at Ferney. Don Juan Riaño gives a full account of this factory, but there do not seem to be any specimens of Aranda's wares in English collections that are anything better than a fine fayence.

In the Museo Arqueologico at Madrid there is a large collection of porcelain and fayence from Buen Retiro, La Moncloa, Alcora, and Talavera.

PORTUGAL.—Some hard-paste porcelain was made at Lisbon before the year 1775, and at Vista Alegre, near Oporto, the factory started about 1790 is still carried on. Certain medallions of biscuit porcelain, in the style of Wedgwood, have found their way into the Schreiber and Franks collections. To judge from an inscription on a minute plaque suitable for setting in a ring, in the latter collection, these medallions were made at the Royal Arsenal at Lisbon in 1792.

CHAPTER XX

ENGLISH PORCELAIN

INTRODUCTION—THE SOFT-PASTE PORCELAIN OF CHELSEA AND BOW

IN spite of the considerable literature that has sprung up upon the subject, we know little of the early history of English soft-paste porcelain.

We have already spoken of the experiments made by Dr. Dwight in the seventeenth century. Dr. Lister, writing in 1699 (see above, p. 282), shows a remarkable acquaintance with the technical qualities of various kinds of porcelain: he speaks of 'the inward Substance and Matter of the Pots' made at Saint-Cloud as the very same as that of the Chinese, 'hard and fine as Marble, and the self-same grain *on this side vitrification.* Further, the transparency of the Pots the very same.' He had expected that at best they 'might have arrived at the Gomron ware, which is indeed little else but a total vitrification.'[1] The man who wrote this must have been thoroughly acquainted with the physical qualities of porcelain; he must already have made some study of the subject. And yet not only at that time, but for the next forty-five years, there is a total absence of any evidence, documentary or practical, that porcelain was made anywhere in England.[2]

[1] I quote this remarkable passage from Sir A. W. Franks's paper on the origin of the Chelsea porcelain works (*Archæol. Journal*, 1862). Marryat misquotes and misinterprets the passage.

[2] One possible exception to this very general statement may be found in a pamphlet quoted by Mr. Solon, *Instructions how to make as good china as was ever sold by the East India Company* by A. Hill, London, 1716. According to

Meantime new porcelain works were springing up in various parts of Germany, and in France the factories of Saint-Cloud and Chantilly had long been at work. It is indeed from a French document that we get our first hint as to the existence of porcelain works in England before the year 1745. In an '*arrest du Conseil d'État du Roy*' of that year, by which Charles Adam is authorised to establish a porcelain factory at Vincennes, a note of alarm is sounded. 'A new establishment that has lately been founded in England for the manufacture of porcelain, which appears by the nature of its composition more beautiful than that of Saxony,' will probably, so the document states, lead to the new English ware replacing that of French origin (Marryat, p. 371).

For one reason or another there appears to have been a great outburst of interest in porcelain about the year 1745. The works at Bow were probably started at that time. There are in existence dated pieces of that year which were almost certainly made at Chelsea, and these were no first efforts. As early as this, some porcelain figures may possibly have been made at Derby,[1] so that we may perhaps take the ten years preceding 1750 as the period during which the industry was obscurely passing through its experimental stage. After this time, those who had been first in the field reaped a good harvest, for during the next decade the china mania was at its height, and afforded much material for the satirical and comic writers of the day.

To sum up the history of English porcelain in the eighteenth century, we may take it that about the year 1740 the first attempts were made to imitate the various

this writer, fragments of Oriental china were to be finely ground and mixed with fluxing and plastic materials to form a paste. Now there is evidence that at a much later date 'potsherds' were imported from China, and ground up to form an ingredient of the porcelain, both at Bow and at Worcester.

[1] The memorandum-book of Duesbury, the future porcelain king, begins in 1742. He was then working, on weekly wages, as an 'enameller' of china figures. But was the ware that he was decorating at this time a true porcelain?

kinds of Oriental and Continental porcelain that were every year coming more and more into use; that by the year 1750 several factories were at work; and finally, that by 1780 the best had already been accomplished, and the decline had already begun.

Taken as a whole, our English porcelain, whether of soft or hard paste, shows little originality. From the point of view of design and decoration we may divide the ware made during the eighteenth century into two schools:—

(*a*) The Oriental school, the wares principally imitated being—1. The white porcelain of Fukien, with decoration in relief, often of prunus blossom. 2. 'Blue and white,' the blue under the glaze—this is often combined with the previous class. 3. The earlier type of Imari, that known at the time as 'old Japan,' or 'partridge and wheatsheaf.' 4. The somewhat later type of Imari with brocaded pattern, what we *now* call 'old Japan.' The enamelled wares of the great revival under Kang-he and his successors, though valued by collectors both here and in France, were less often copied.

(*b*) The European school, which derived its inspiration from—1. The early wares of Saint-Cloud, and later from those of Vincennes and Sèvres. Speaking generally, the influence of Sèvres became predominant after 1755, and to some extent ousted the earlier Oriental *motifs*. 2. Dresden, which gave the type for the statuettes and also for the elaborate painting of flowers and realistic landscapes on plates and dishes. This German influence, favouring a dullish scheme of colour and a 'tight' execution, was more apparent at an earlier and again at a later period; during the best time, say from 1755 to 1770, it was eclipsed by that of Sèvres.

It must be remembered that England is the only country where porcelain has been successfully made without royal or princely patronage. The various kilns were here without exception founded as commercial

speculations—they were essentially the outcome of middle-class enterprise. There was, it is true, at one time some question at Chelsea of royal patronage, as represented by the Duke of Cumberland, but this came to nothing. Some interest was taken and some advice given on the artistic side by one or two great noblemen —by the third Duke of Argyll, for instance, an admirer of the 'Kakiyemon' decoration—but the capital to start and maintain the works came from the pockets of the more enterprising and businesslike of the designers and decorators themselves, men like Sprimont and Duesbury, assisted by local bankers, merchants, and physicians.

As a result, we find that a great feature in the commercial management, one that was quite peculiar to our island, was formed by the annual sales by auction, advertised beforehand in the local papers. It was by careful search through these advertisements and through the old sale catalogues that the late Mr. Nightingale was able to clear up some at least of the difficulties and misconceptions that have surrounded the history of English porcelain. The too ready acceptance of anecdotes and 'pleasant stories,' copied from one writer to another with occasional embellishments, has been the cause of much confusion. These have originated in many cases from the senile gossip of decayed workmen. The same may be said of the disproportionate attention given to marks, to which more care has been given than to a critical discrimination of the differences that distinguish the paste, the glaze, and the decoration of different wares.

How little was known a few years ago about the composition of our English porcelains is shown by the general acceptance of the statement that Spode, about the year 1800, introduced the use of bone-ash. It is now known that nearly fifty years before that time the use of a phosphatic paste was general in England, and, according to Professor Church, in ninety per cent. of the

specimens in our collections bone-ash is an essential constituent. Thus the one original discovery that we can claim for our country was either forgotten or ignored.

Apart from the hard porcelain of Plymouth and Bristol, our English pastes may be divided into three classes. That first used was probably copied as closely as possible from the pastes of Saint-Cloud and Chantilly. It was a mixture of sand from Alum Bay and pipeclay from Dorsetshire, with an amount of glass, in the form of a frit, sufficient to ensure translucency. Before long the sand and clay were replaced in great measure by bone-ash, and we get the 'natural soft paste' especially characteristic of English eighteenth century porcelain. Finally, at the beginning of the next century Spode replaced the glassy frit by a mixture of kaolin and china-stone, retaining the bone-ash. A paste of this type has been in use ever since. Thus, in the year 1840, the ordinary commercial porcelain of Staffordshire, which in its origin was a development of the artistic wares of the eighteenth century, was made from Cornish kaolin 31 parts, Cornish china-stone 26 per cent., flint 2·5 per cent., and 'prepared bones' 40·5 per cent.[1] The last material is made from the roasted bones of oxen, now largely imported for this purpose from South America. The glaze on the earlier wares was essentially a silicate of lead and potash, compounded from white lead, nitre, and salt. But at present a harder glaze is used for the Staffordshire porcelain: it contains, in addition to the above substances, a considerable quantity of china-stone and china-clay, together with a little borax.

Our English porcelain of the eighteenth century may be divided roughly into five periods:—

1. The early or primitive period, very often char-

[1] Mr. Burton says that at the present day the Staffordshire porcelain is composed of bone-ash 6 parts, china-stone 4 parts, and kaolin 3½ parts.

acterised by Chinese, and especially Japanese, schemes of decoration. Oriental wares are closely copied, sometimes perhaps with the object of deception. The paste, containing no bone-ash, is soft and very waxy in appearance. Much of the ground is left unpainted, and there is no gilding. There is a great uncertainty as to the place of manufacture of many of these early pieces.

2. The fine period—approximately 1755 to 1768—especially associated with the name of Sprimont, at Chelsea. The influence of the contemporary production at Sèvres is very marked.

3. The Duesbury period, 1768 to 1786. Simple classical forms are predominant at Chelsea and Derby. The rich decoration previously in use at Chelsea is continued at Worcester, but applied to pieces of simpler outline, the vases often copying Chinese forms.

4. The early commercial period. The business firms at Derby and Worcester almost monopolise the market. Somewhat later the factories in the Severn valley form a link with the next period.

5. The Staffordshire commercial period, equally commercial and essentially eclectic. Everything is copied, and there is a constant tendency to hark back to older types.

It is possible that some such historical arrangement, combined with a division according to types of decoration, might be made the basis of an account of English porcelain; but it will be a safer course to follow the usual topographical division, treating the different factories more or less in the order of the date of their foundation.

CHELSEA.—The year 1745 is the earliest date to which any piece of Chelsea ware can with certainty be assigned. The factory ceased to exist as an independent seat of manufacture before 1770. In this short interval there were apparently some years during

which very little china was made. It is thus essentially an early ware, and Horace Walpole in his catalogue already speaks of 'old Chelsea.'

We know absolutely nothing about the origin of the works. The Duke of Buckingham, in the time of Charles II., is said to have been interested in some glass-works in this neighbourhood, and to have brought over workmen from Venice. The duke's glass-houses were, however, more probably at Lambeth. At any rate, at that time, the 'cones,' as the glass-houses were called, appear to have been regarded as places suitable equally for the making of glass or the firing of pottery—so at least I glean from the terms of an advertisement in which some of these 'cones' are offered for sale. The origin of the well-known anchor-mark of Chelsea has been sought in Venice, but, as far as porcelain is concerned, it was probably in use at Chelsea at an earlier date than in the latter town.

Our knowledge of the existence of a factory at Chelsea before 1749 rests on the survival of two little cream-jugs of white ware moulded in the so-called 'goat and bee' pattern. Like some other pieces to which an early date may be assigned, these little jugs bear as a mark a rough triangle scratched in the paste (PL. E. 68), but they stand alone in the fact that beneath the triangle has been added, *before baking*, in a scrawly hand, 'Chelsea, 1745.'[1] Thanks to them we are able, upon material evidence, to put back the origin of English porcelain for five years at least.[2]

In the year 1747, we are told in the *London Trades-*

[1] Mr. Willett, of Brighton, has a pair of 'goat and bee' jugs in silver, with the hall-mark of 1739.

[2] There is an interesting series of these very early pieces in the British Museum. A white ware salt-cellar, with crayfish in relief, has the triangle mark. A jug, in the form of a grotesque Chinaman, is a good specimen of the early paste. We notice the same waxy look in the paste that we find in the Saint-Cloud ware. The surface, however, is generally grayer.

man, that at a house at Greenwich, and at another at Chelsea, *the undertakers had been for some time trying* to imitate the porcelain of China and Dresden, and in the same year a number of Staffordshire potters migrated to London to find work in the Chelsea factory (Shaw's *Rise and Progress of the Staffordshire Potteries*). In a London paper of December 1749 there is an advertisement of the sale of a freehold messuage in 'Great China Row, Chelsea.' This was no mere misprint—China for Cheyne—(the two words were pronounced alike at that time), for we come across the same spelling in more than one instance at a later date.[1] There is a real confusion of the two names, arising probably from the interest taken in the porcelain factory lately established in the neighbourhood; and this very confusion is good evidence of the extent to which the china question was occupying people's minds at the time.

Two months later, in January 1750, we hear for the first time of Mr. Charles Gouyn, but he is already, at that date, the *late* proprietor and chief manager of the 'Chelsea House.' Of this Gouyn, presumably the founder of the works, we know nothing. He was probably of French or Belgian origin.[2] Of Gouyn's successor, Nicholas Sprimont, we know something more. Like his contemporary Duplessis, at Sèvres, he was a silversmith, working at one time in Soho. Sprimont entered his name at Goldsmith Hall in 1742, and his mark is found on a pair of silver dishes ornamented with shells and corals now at Windsor.

For twenty years (1749-69) the factory at Chelsea was dependent upon Sprimont's efforts. He was

[1] In 1758 we find an advertisement of a house to let in 'China Walk,' Chelsea.

[2] Both Gouyn and his successor, Sprimont, were very likely Walloons from the neighbourhood of Liége. In a contemporary work, however, the latter is spoken of as 'a French artist of great abilities.' Rouguet's *Present State of the Arts*, 1755.

financier, director, and designer. When he was ill the kilns were not lighted. When finally, in 1764, he had to go in search of health to 'the German Spau,' the stock and plant were offered for sale. At an early period—soon after 1753, it would seem, but possibly somewhat later—he appealed to the Government against the connivance of the custom-house officials at the smuggling in of Dresden china. In this '*Case of the Undertaker of the Chelsea Manufacture of Porcelain*,' Sprimont points out that 'as the law stands, painted Earthenware[1] other than that from India is not enterable at the Custom House, otherwise than for private use.' 'The regulation,' says Sprimont, 'is, however, evaded, especially by a certain foreign minister whose official residence has become a warehouse for this commerce. What chance had a private person in a match with a crowned head?'

From this 'Case' we learn that no porcelain or other ware, apart from the importations of the East India Company, was allowed to enter the country, but that an exception was made in the case of plain white ware suitable for subsequent decoration in England.[2] Private individuals, however, might import a certain amount of European porcelain for their own use on payment of a small duty. 'This concession,' says Sprimont, 'was greatly abused.' Who, however, is the 'crowned head' who is so anxious to push the sale of his own goods in the English market? The Elector of Saxony, it is usually said; but if we could put the date of the 'undertaker's case' a few years later, between 1759 and 1761 (there are, I allow, some difficulties in so doing), this charge would fit in well with

[1] Note the term 'earthenware.' As in a much earlier proclamation of the time of Charles II. (forbidding the importation of painted earthenware, except 'those of China, and stone bottles and jugs'), the word is used officially to include porcelain.

[2] Such a regulation would seem to show that in England the enamel-painters were in the field earlier than the manufacturers of porcelain.

the efforts of Frederick the Great to convert the stock of porcelain he found at Meissen into the much-needed cash.[1]

The factory at Chelsea was situated beyond the west extremity of the original Cheyne Row, just before you come to the old church. The works extended for some distance along the west side of Lawrence Street. Nothing is left of them now, but during some excavations made near at hand, in 1843, many fragments of porcelain were found. These pieces belong, it would seem, to an early period of the manufacture.

We have already pointed out that neither the Chelsea works, nor indeed any other English porcelain factory, at any time received direct financial support either from the royal family or from the Government. Sir Everard Fawkner, however, secretary to the Duke of Cumberland, was a collector of china, and took some interest in the works. It was through his influence, perhaps, that the 'butcher of Culloden' appears at one time to have been brought, in some way, into connection with the Chelsea factory.[2] Again, soon after his accession, the young King George III. sent to the Duke of Mecklenburg a complete service of Chelsea porcelain which cost £1200. This is, I think, our first known

[1] The later date is supported by the statement of Sprimont in his 'Case,' that 'the ground flat of the manufacturer has gone on still increasing,' for we know that the works were enlarged in 1757. The expression 'crowned head' applies better to the King of Prussia than to the Elector of Saxony. In 1760, as we have seen, Count Schimmelmann was at Hamburg selling, on behalf of Frederick, part of the vast stocks accumulated at Meissen.

[2] In a London paper of December 4, 1763, appeared the following statement—I quote from Mr. Nightingale's book,—'A few days since, his R. Highness the Duke of Cumberland was at Mr. Sprimont's manufactory at Chelsea, and we are informed that his Highness will shortly purchase the same, that so matchless an art should not be lost.' A week later, however, a formal contradiction of this report appeared in another paper, in the form of a note at the end of an advertisement of the sale of the contents of Sprimont's factory. All this has a very modern air. We have a skilful combination of the *ballon d'essai* and the puff preliminary.

instance in England of royal patronage, even in this restricted sense.

In common with the other porcelain made at the time, the decoration, and even the shapes, of much of the early ware of Chelsea were derived from Oriental models. Of these Eastern types, the 'wheatsheaf and partridge' (more properly quail) was most in favour. The Chelsea imitations of the old Japanese ware are distinguished by the abundant use of a heavy iron-red enamel. There are several specimens of this ware at South Kensington, but I would call attention, above all, to a very curious *compotier* in the Jermyn Street collection.[1] This dish has a brown rim, and round the margin a quaint decoration of foxes amid clusters of red grapes. This is a very old Chinese *motif*, only we should have squirrels in place of foxes. But the Chelsea 'Kakiyemon' never equalled that of Chantilly, or perhaps even the copies made at Bow. On the other hand, the Chelsea plates made in imitation of the brocaded 'old Japan' are unsurpassed among European wares (PL. XLV). Equally early, perhaps, are the plates and dishes with decorations of flowers and birds on a large scale sprawling over the surface. In these last examples the colours are poor and heavy, and the general execution very rough. Many of the plain white pieces also belong to this early period.[2]

In the year 1754 Sprimont introduced the system of periodic sales by auction;[3] and we can in some measure trace the progress of the manufacture in the

[1] This collection has lately disappeared from its old home in the Geological Museum, where it had been the delight of two generations of collectors. Most of the specimens have, however, quite recently been discovered at South Kensington.

[2] Much of the white ware at this time was decorated outside by 'chamberers.' Compare the memorandum-book of Duesbury quoted below.

[3] The advertisement of these sales in contemporary newspapers, and many of the catalogues, have been collected together and reprinted by the late Mr. J. E. Nightingale.

advertisements and in the rare catalogues that have been preserved. Thus in the advertisement of the first sale of 1754 we already find mention of groups of figures. The next sale, a few months later, was made up of 'the entire Stock of PORCELAIN TOYS . . . Snuff-boxes, Smelling-Bottles, Etwees, and Trinkets for Watches (mounted in Gold and unmounted) in various beautiful Shapes of an elegant Design and curiously painted in Enamel.' There was also in this sale a large parcel of porcelain hafts for table and dessert knives and forks.

This is the first mention that we have of these fascinating little 'toys and trinkets.' They often bear inscriptions in a somewhat lame French, which we might have looked for rather on the rival wares of 'Stratford-atte-Bowe' than at a factory where we have reason to believe more than one Frenchman was employed. Of these toys a representative collection was made by Lady Charlotte Schreiber, and there are many charming specimens in the British Museum. We must remember that about this time, and perhaps earlier (1740-50), Saint-Cloud and, above all, Mennecy, were turning out a similar class of objects.

The Chelsea sale of 1756 is the earliest of which a catalogue has been preserved, and in it we find the first mention of the 'mazareen' blue, a colour after this time largely used as a ground for the more elaborate vases, both at Chelsea and at other English factories. The rage for porcelain was then at its height, and we see traces of this in the advertisements of the time; but in 1757 Sprimont fell ill, and little was made at Chelsea. In 1759 the collection of Chelsea porcelain made by the already-mentioned Sir Everard Fawkner, lately deceased, was sold by auction. The sale occupied several days, and in the advertisement we come across the earliest reference to the use of green *en camaïeu*—'a tea and coffee equipage, exquisitely painted in green landscapes.'

It was about this time, Professor Church thinks, that the artificial frit-paste was replaced at Chelsea by one containing a large quantity of bone-ash (as much as fifty per cent. in some cases). The earlier material of the French type must have been very difficult to work, and it softened so readily in the kiln that many specimens were spoiled in the firing. It had, however, a certain mellow charm given by its translucency and by the close unison of paste and glaze, that was never equalled in the later material.

Indeed the high-water mark of the Chelsea factory was reached in the years that succeeded Sprimont's first illness of 1757. It was then that the use of gilding became more general.[1] The gold was laid on by means of an amalgam, the mercury being expelled by the heat of the muffle. The result, after burnishing, was to give a brilliant surface of pure gold unlike the solid chiselled lines and bands of dullish surface seen on Sèvres china. But from an artistic point of view this result is not very satisfactory—indeed, nothing has helped more to give a certain garish and vulgar air to much of the English porcelain made at this time.

In the notice of the spring sale of 1760, Sprimont sings the praises of 'a few pieces of some new colours that have been found this year at a very large expense, incredible labour and close application.' Among these new colours we must probably reckon the beautiful claret or deep purplish crimson, the one colour of our English porcelain that has never been surpassed or even equalled on the Continent. It differs from the contemporary *rose Pompadour* not only by the greater intensity of its hue, but by being a transparent colour. This claret is, of course, derived from the purple of Cassius, and the peculiar tint is said to be due to the addition to the gold of a small amount of silver. Among the other

[1] Before this time the gold had been simply laid on with japanner's size and only gently heated. See Burton's *English Porcelain*, p. 46.

colours introduced at this time was probably a blue made in imitation of the famous turquoise of Sèvres. This blue is very rare as a ground colour at Chelsea, and the tint is generally greenish and opaque. It is found at its best on a large vase in the British Museum with open-work cover and handles. In a diluted form the turquoise blue is often found as a wash upon the drapery of statuettes. The *rose Pompadour* of Sèvres was also imitated at a later date, but not very successfully.

This is the time of the more ambitious vases, with a monochrome ground generally of deep blue and reserved panels painted with pastoral or mythological subjects, or with fantastic 'exotic' birds and flowers. The painting, even in the finest examples, never attained the delicacy of the Sèvres prototype, and it is often lamentably inefficient, but at the same time this very rudeness of execution sometimes adds to the decorative effect of the *ensemble*. These vases are above all distinguished by the strangely contorted shapes that Sprimont so loved to give to the handles, covers, and feet. All these points are well illustrated in the vases (made in the years 1762 and 1763) that Dr. Garnier gave to the Foundling Hospital and to the British Museum. The painting on these specimens is particularly bad and heavy. The mythological subjects, in the style of Boucher, on the famous *garniture* with claret ground, now belonging to Lord Burton, show a greater delicacy—in execution at least. This exaggerated rococo treatment—in the extreme forms even the bilateral symmetry is abandoned—was doubtless suggested by the forms of the ormolu mountings (for handles and feet especially) then much in vogue.[1]

[1] There was a revival of the practice of mounting, or, to use the old term, 'garnishing' porcelain in ormolu about this time. At Boulton's works at Soho, near Birmingham, famous, a little later, in the history of the steam-engine, these metal mountings were largely made, and Wedgwood began to apply them to some of his wares (see Nightingale, p. xxxiv.).

To a somewhat earlier date belong the moulded reproductions of animals, vegetables, and fruit so well represented in the Schreiber collection. In the case of some of the models of birds, the plumage is admirably reproduced, and in a sufficiently bold style. Notice especially some covered dishes in the form of partridges and doves. There was a sale of these 'Chelsea Tureens in the shape of hen and chickens, swans, rabbits, carp, etc.,' in 1756.

How brilliant and decorative in general effect was some of the ware made by Sprimont in his later days may be well seen in the collection presented to South Kensington by Miss Emily Thomson. It consists chiefly of plates and cups with grounds of deep Mazarin blue, and more especially of the rich claret or maroon of Chelsea (PL. XLIII.). Technically, however, many of these pieces are very imperfect—the thick glaze accumulated in pools and fissured by cracks, the painting rude —and yet for all this a plate of this ware which has found its way by some accident into an adjacent case, full of the finest Sèvres of the best period, shines out from its surroundings like a jewel.

The single figures and groups are mentioned in the earliest advertisements—some of the plain white statuettes date back probably to the first days of the works. Here the English potters, in applying the soft paste covered with a thick, brilliant glaze to such a purpose, were breaking fresh ground. The crispness and the finish of the Dresden statuettes they could never attain to with these materials. The English figures and groups, whether made at Chelsea or elsewhere, are generally wanting in sharpness and precision of outline, a consequence in great measure of the thick-flowing glaze. In the kiln they had to be supported by an elaborate system of struts to prevent the fusible material from collapsing, and this alone must have hampered the modeller in the selection of the design. Many of these

PLATE XLIII. CHELSEA

English statuettes are childishly and hastily modelled, and yet here and there, perhaps almost by an accident, the modeller has succeeded in giving a naïve charm and vivacity to the little figure that disarms all criticism. I could point to perhaps a dozen examples in our museums to illustrate this. Many of these statuettes are disfigured by the tawdry gilding, and by the ugly rococo or 'scroll' bases which are always present in the Chelsea examples. The colouring is distinguished by the skilful use of pale and gradated tints: the greenish turquoise, the *rouge d'or*—both the English and the French tints—and the pea green, are—thanks, perhaps, to the crystalline glaze into which these colours melt—boldly combined without any unpleasant effect[1] (PL. XLIV.).

Sprimont, who after all is perhaps the most interesting figure in the history of English porcelain, was after the year 1761 constantly interrupted by ill-health, and the outturn of the kilns was for several years very irregular; finally in 1769 the remaining stock was sold by auction. The next year, the contents of the factory, the moulds, the models—in wax, brass, or lead—the mills and the presses were purchased privately by Duesbury *en bloc*, greatly to the disappointment of Wedgwood, who had his eye upon certain of the models. Duesbury also took over the lease of the Chelsea works, and carried them on conjointly with his main factory at Derby until the year 1784. In that year, on the expiration of the already prolonged lease, the factory at Chelsea was finally abandoned and the kilns pulled down.

The sales which had previously taken place at

[1] I can find no confirmation of the statement that Roubiliac modelled figures for Sprimont. Certain statuettes bearing an R. impressed on the paste have been attributed to him. There is no reference to any such work in the life of the artist by M. Le Roy de St. Croix (Lyons, 1886). Roubiliac, who died in 1762, was already in 1750 at the height of his reputation, and fully employed in more important work.

Burnsall's in Charles Street, Berkeley Square, were now held at Mr. Christie's 'in his great room, late the Royal Academy, in Pall Mall.' It was there that 'Messrs. Duesbury and Co.' disposed at intervals of the produce of the combined works. But the history of Chelsea porcelain as a *genre* apart comes to an end with the departure of Sprimont. During the remaining years of their existence, the Chelsea works formed merely a dependency of those at Derby.

As to the marks used at Chelsea, of the early incised triangle, which was formerly ascribed to Bow, we have already spoken. The anchor in relief on a raised oval cartouche (PL. E. 69) is found on relatively early ware; it is associated with a waxy, translucent paste, and a simple decoration without gilding. The mark, *par excellence*, of Chelsea is the red anchor (PL. E. 70), but on richly decorated pieces, and especially those with much gilding, the anchor is often inscribed in gold.

Bow.—From the beginning of the eighteenth century to the year 1744 there is no trace of the issue of any English patent relating to the manufacture of porcelain. In the latter year, however, a specification was registered according to which Edward Heylyn, of the parish of Bow, merchant, and Thomas Frye, of the parish of West Ham, painter, professed to make porcelain, by mixing with 'an earth the produce of the Cherokee nation in America, called by the natives Unaker,' a glass composed of flint and potash. This unaker, no doubt a kind of kaolin (we are told that the sand and mica had to be carefully washed away), was much talked of at this time (especially in Quaker circles), and its use preceded by some years that of the Cornish china-clay.

Possibly something resembling porcelain was made at Bow for a short time with these incongruous materials; but in the winter of 1748-49 a second patent

Chelsea. Coloured enamels.

was taken out, this time by Frye alone, 'for a new method of making a certain ware which is not inferior in beauty and fineness, and is rather superior in strength than the earthenware that is brought from the East Indies, and is commonly known by the name of China, Japan, or porcelain ware.' In the description of the materials employed under the vague denomination of 'a virgin earth' produced by the calcination, grinding, and washing of certain animals, vegetables, and fossils, we probably have, as Professor Church has pointed out, the first mention of bone-ash as a material for porcelain. According to the specification, the paste should contain four-ninths by weight of the 'virgin earth,' and taking this to mean bone-ash, this proportion corresponds most closely with the amount of phosphate of lime found by Professor Church in some of the fragments from the site of the works which we shall describe directly. Frye's glaze was to be compounded from a mixture of red lead, saltpetre and sand, with the addition of a small quantity of smalt, to correct the yellow colour of the paste.[1]

Thomas Frye was an artist of some standing who, towards the close of his life, 'scraped' some mezzotints still valued by collectors. He died in 1762, and in his epitaph it is claimed for him that he was 'the inventor and first manufacturer of porcelain in England.' The works of which Frye was the manager before the failure of his health in 1759 were situated close to the high road just beyond the bridge over the river Lea. Close by, in 1868, when making some excavations for a drain in the grounds of a match-factory, a number of fragments of porcelain were found, among them pieces of

[1] Mr. Burton points out that it would be quite impossible to make a translucent ware with the materials of the first patent. He doubts also the use of bone-ash in the earlier porcelain of Bow, the paste of which is distinctly of the Saint-Cloud type. I think, however, that there can be little doubt but that the 'virgin earth' refers to bone-ash, and the fragments from Bow in which this substance has been found seem to be derived from an early ware.

plain white with prunus 'sprigs' in relief, and others poorly decorated with under-glaze blue. Some of these fragments were evidently 'wasters.' With them were found some broken 'seggars,' and, what is still more interesting, a circular cake of frit, so that the site of the kilns must have been near at hand.[1]

The model of the Bow factory, we are told, was taken from that at Canton, in China. It would be interesting to know to what building the reference is made, for it is doubtful whether porcelain was ever made at Canton. In any case, the name given to the factory, 'The New Canton Works,' is interesting. Here in the east of London, one was then, as now, perceptibly nearer to China and the East Indies than at Chelsea. The river and the docks are at hand, and there is indeed only one stage—a long one, it is true—between us and Canton. So at Bow we find the Oriental decoration more prevalent and surviving longer than elsewhere.

The outturn of the kilns, like that of Chelsea, was sold periodically by auction, but the sales took place in the city for the most part, and the principal warehouse was in Cornhill. Though so difficult to identify nowadays, a large quantity of porcelain must have been produced by the Bow factory during the thirty years of its independent existence. Like its rival at Chelsea, the works had many ups and downs, and Crowther, the proprietor, became bankrupt in 1763. Compared with Chelsea, however, the bulk of the ware produced was no doubt of a common and cheap kind. Sprimont, in his 'Case of the Undertaker,' says somewhat contemptuously, 'The chief endeavours at Bow have been towards making a more ordinary ware for common use.' This

[1] Specimens from this find may be seen at the British Museum, at South Kensington, and in the late Jermyn Street collection. An interesting and detailed account of the fragments, which were excavated and arranged by Mr. Higgins of the adjacent match-works, will be found in Chaffers's *Marks*, pp. 908 *seq.*

is, of course, the dictum of a rival, but the Bow firm, in their advertisements, only claim to provide 'china suitable for gentlemen's kitchens, for private families and taverns.'

There has been the widest difference of opinion as to the actual specimens of porcelain that may with certainty be classed as the produce of the kilns at Bow. The earliest dated pieces are of a very modest kind—certain little cylindrical ink-pots. There is one in the collection formerly at Jermyn Street, with the inscription 'Made at New Canton, 1751'; another in a private collection is dated a year earlier. The execution is rough, and the hastily coloured decoration of flowers is in the Japanese style. Some little time after this, in 1753, we find proof that the kilns were turning out much more ware than the proprietor could find painters to decorate.[1] They advertise in a Birmingham newspaper for 'painters in the blue and white potting way and enamelers in china-ware'; also for 'painters brought up in the Snuff-box way, Japanning, Fan-painting, etc.' They are at the same time in search of persons 'who can model small figures in clay neatly.' Such advertisements seem to come from a commercial house with a large but perhaps irregular outturn. Sprimont would probably have exercised more care in the selection of his artists.

There is a famous punch-bowl in the British Museum which is above all the *pièce justificative* of the Bow porcelain works. On the inside of the cover of the box in which it is preserved is a long inscription, signed at the foot by T. Craft, and with the date 1790.[2] Thomas Craft, formerly an enamel-painter at Bow, was

[1] This difficulty of making the decoration keep pace with the outturn of the kilns was felt at this time at other kilns—from King-te-chen to Sèvres and Worcester. Recourse was more and more had to the outside enameller—the 'chamberer'—on the one hand, and to transfer-printing on the other.

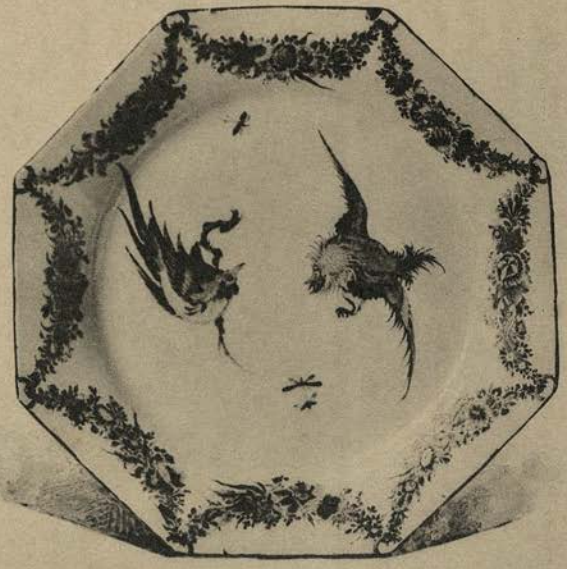
[2] This document is exhibited at the British Museum by the side of the punch-bowl.

probably at that time a very old man. This bowl, he tells us, was made at Bow about 1760, and painted by him 'in what we used to call the old Japan taste, a taste at that time much esteemed by the then Duke of Argyle.' This is interesting. Craft refers probably to the so-called 'partridge and wheatsheaf' style, and the duke was doubtless a collector of this ware, like his contemporaries at Chantilly and the Palais Royal. But the decoration of this bowl has unfortunately nothing Japanese about it, except to some degree in the colour of the enamels employed. The heavy wreaths made up of minute flowers, upon which Mr. Craft tells us that he expended two dwts. of gold and about a fortnight of his time, take their inspiration rather from Meissen. (Compare the wreaths, PL. XLV. 2.) The works, he continues, which employed ninety painters and about two hundred turners, throwers, etc.,[1] had now, in 1790, 'like Shakespeare's cloud-capt towers, etc.,' shared the fate of 'the famous cities of Troy, Carthage, etc.' The site was occupied by a manufactory of turpentiné and some small tenements. Mr. Craft, however, tells us that he never used this punch-bowl *but in particular respect of his company*, and he hopes that those to whom it may pass may be equally abstemious. It is at present in the charge of the trustees of the British Museum.

Many of the more elaborate figures and highly finished vases classed as 'Bow' in the Schreiber collection at South Kensington are now regarded by most specialists as the production, some of the Derby works, and others of the Chelsea and even the Worcester kilns. In view of the uncertainty and difference of opinion about the ware that is to be attributed to Bow, it is important to note the physical qualities of undoubted specimens. Professor Church lays stress upon the

[1] These figures are probably exaggerated. Sprimont, a little earlier, says that he was employing at Chelsea 'at least one hundred hands.'

1



2

PLATE XLV. 1—CHELSEA, COLOURED ENAMELS

2—BOW, COLOURED ENAMELS

general thickness of the ware, the remarkable translucency of the thinner parts, and upon the fact that the transmitted light is of a somewhat yellowish tint, not greenish, as in the Worcester porcelain. The glaze, though nearly white, is of a pale straw colour, and it tends to accumulate round the reliefs; it contains much lead, and is liable to become iridescent and discoloured (*English Porcelain*, p. 31). I would add that a majority of the undoubted examples—I rely especially upon those collected by the late Sir A. W. Franks, now in the British Museum—are distinguished by a certain dirty and speckled appearance of the surface of the glaze. I think that the Bow china has been less influenced than other of our wares by French and German examples. Apart from the Oriental decoration of some of the earlier pieces, it is on the whole a very *English* ware.

The process of transfer-printing, which had been first applied to china by Sadler of Liverpool about the year 1750, and which had been in use at perhaps as early a date on the enamels of Battersea, where Hancock was working at this time, was employed a few years later at Bow.[1] A preliminary outline was sometimes printed under the glaze, and this subsequently enlivened by enamel colours laid on by hand, as we see on some barbarously painted dishes with Chinese subjects in the British Museum. This transfer-printing is an essentially English process: it has since been carried round the world in the wake of our Staffordshire pottery, and the process has even been applied to porcelain in Japan. To the general adoption of this mechanical process, more than to any other cause, we may attribute the dying out of the school of artist-craftsmen who painted on china, and the extinction of all feeling for the decorative value of the designs applied to the ware.

I would call attention to some small figures in the

[1] 'Printed teas and mugs' are mentioned in Bowcocke's memorandum-book in 1756.

collection formerly in the Geological Museum. These little statuettes are in a white glazed ware of a slightly greenish tint, and they are attributed to Bow. The 'Draped Warrior' and the 'Seated Nuns' appear to be taken from models of a considerably earlier period, and their artistic merit is undeniable.

John Bacon, the fashionable sculptor of George III.'s time, is said to have found employment, when young, both as a modeller and painter of porcelain. He was certainly apprenticed in 1755 to a Mr. Crispe of Bow Churchyard, the proprietor of some pottery-works at Lambeth, and he may very likely have worked for Crowther, at Bow, after the expiration of his apprenticeship.

A dagger or sword with one or more dots near the hilt, associated with an anchor, is the mark especially characteristic of the ware made at Bow (PL. E. 71), but much porcelain attributed to this factory carries no mark. A monogram formed of the letters T and F found on some early ware is perhaps to be referred to Thomas Frye, but the Worcester factory also used this mark (PL. E. 72).

LONGTON HALL.—It has lately been recognised that porcelain was made in the Staffordshire potteries, probably as early as the middle of the century.[1] This was at Longton Hall, in the borough of Stoke-upon-Trent. From an advertisement in a Birmingham paper (July 27, 1752) we learn that W. Littler and Co. were ready to supply 'a great variety of ornamental porcelain in the most fashionable and genteel taste.' It was Mr. Nightingale, I think, who first traced certain pieces of china, marked with two L's crossed (PL. E. 81), to Littler's factory. This porcelain had previously been attributed to Bow. The Longton Hall ware has no

[1] See Nightingale's *English Porcelain*, pp. li. *seq.*, and Bemrose's *Bow, Chelsea, and Derby Porcelain*, pp. 153 *seq.*

claim to any artistic merit. A crude blue is the prevailing ground colour, and the contorted shapes copy rudely the rococo of Sprimont's Chelsea ware. The mouldings on the dishes and plates often take the form of leaves. Some of this porcelain is exceptionally thin compared with other English wares of this comparatively early period. The flower-painting on the reserved panels of the plates should, however, be noticed. The carefully executed bunches of roses, somewhat realistically treated, are perhaps the earliest specimens of a style very prevalent at a later time in England, one which found its most famous exponent in Billingsley's work at Nantgarw and elsewhere. William Duesbury, a native of the district, was working at Longton Hall early in the fifties as a painter in enamel. Nothing is known of this factory after the year 1758.[1] There is some reason to believe that it fell into the hands of Duesbury, but this is a disputed question. Professor Church has analysed several specimens of the Longton Hall china. It contains no bone-ash, and is in composition very close to the early Chelsea ware.

[1] The rococo vases, however, of this ware in the British Museum seem to be of a somewhat later date, if we take Sprimont's work at Chelsea as a criterion.

CHAPTER XXI

ENGLISH PORCELAIN—(*continued*).

THE SOFT PASTE OF DERBY, WORCESTER, CAUGHLEY, COALPORT, SWANSEA, NANTGARW, LOWESTOFT, LIVERPOOL, PINXTON, ROCKINGHAM, CHURCH GRESLEY, SPODE, AND BELLEEK.

DERBY.—Porcelain of some kind was probably made at Derby not much later than the date of the first establishment of Frye's works at Bow. Mr. Bemrose quotes entries from the work-book of Duesbury, which show that during the years 1751-53 he was busy enamelling the products not only of the 'Chellsea and Bogh' kilns, but that, although resident in London, he received work from Derby also. Indeed the price, eight shillings, that he got for enamelling 'one pair' of Darby figars large,' is higher than his usual charge for painting the Chelsea statuettes (*Bow, Chelsea, and Derby Porcelain*).[1]

William Duesbury was a Staffordshire man. As early as the year 1742, when he was only seventeen, he was working in London as an enameller for weekly wages. This we know from his work-book, which has been preserved. It would be interesting to know what it was that he enamelled at this early date. From the same book we learn that in the years 1751-53 he was in London decorating china figures for the most part. These he distinguishes as Bow, or Bogh, Chellsea,

[1] These 'Darby figars' may possibly have been of earthenware. There are some richly painted statuettes of this material at South Kensington, though these indeed seem to be of a somewhat later date.

Darby, and Staffordshire. In 1752 he paid a bill of £6, 19s. for colours, although at that time little gold was used by him. Among other entries in his work-book at this period we find the following note: 'How to color the group, a gentleman Busing a Lady—gentlm a gold trimd cote, a pink wastcot crimson and trimd with gold and black breeches and socs, the lade a flourd sack with yellow robings, a black stomegar, her hare black, his wig powdrd.' Each piece that he coloured is carefully noted, and the price that he obtained given. For instance, 'pair of le Dresden figars,' 'Chellsea Nürs,' 'a pair of Baccosses,' 'a hartychoake.'[1] We have already referred to Duesbury's connection with Littler's works,—we may note that his father was living at Longton Hall at this time.

In December 1756 there was a sale in London, by order of the 'Derby Porcelain Manufactory,' of figures, services, etc., 'after the finest Dresden models.' For some time the 'Derby China Company' sold their goods through their factor at 'Oliver Cromwell's Drawing-Room' near the Admiralty. It would seem that in 1756 Duesbury entered into some kind of partnership, at Derby, with Heath and Planché, the first a banker and proprietor of pottery-works at Cockpit Hill, and the latter a 'china-maker,' of whom various more or less apocryphal stories are told. All we can safely say is that Planché had probably been working for some time at Derby as a modeller of figures.

In the year 1758 the Derby works were enlarged and the number of workmen doubled, and this change has been coupled with the closing of Littler's factory at Longton Hall about the same time. But from this date to the year 1769, all that we know of the Derby factory is derived from a few advertisements in London papers. It is indeed a very remarkable fact that, in

[1] Mr. Bemrose, in his work on *Bow, Chelsea, and Derby Porcelain*, gives photographic reproductions of several pages from Duesbury's work-book.

spite of the most persevering researches—for how thoroughly the ground has been gleaned we can judge by looking through the elaborate works of Haslem, Bemrose, and the late Mr. Nightingale—we can hardly point to a single specimen of porcelain made at Derby before the year 1770, nor do we know of any mark that can be assigned to an earlier period than this. Can it be that up to this time the works were chiefly occupied in copying the wares, and perhaps the marks, not only of Dresden, but also of Chelsea and Bow?

When the Chelsea factory and its contents were sold in 1769, it was Duesbury, and not the Derby China Company, who was the purchaser. After the year 1775, when the Bow works were also purchased, he had, with the exception of the Worcester manufactory, practically no rival in the field.

We may take the year 1770 as the turning-point in the history of English porcelain. In France, by this time, the rococo of Louis XV.'s reign was already giving way to the simpler, and in part more classical, forms that distinguish the next reign, for it is common knowledge that the style known as Louis XVI. came into vogue several years before the accession of that king. In England the change can be best traced in the work of the silversmith, seeing that in such work there can be no uncertainty as to the date. Already, before the end of the sixties, we find in the silver plate then made outlines formed of simple curves and even straight lines replacing the troubled rococo scrolls, and by the year 1770 the new classical forms have carried the whole field. And in like manner the china made by Duesbury, both at Chelsea and Derby, follows the new fashion.

But the vases bearing the Chelsea-Derby mark of an anchor crossing the down-stroke of the letter D (PL. E. 73) differ from those made by Sprimont not

only in outline. A new scheme of decoration has come in, one that continued with no radical change for the next fifty years and more. Let us take the Chelsea-Derby vase in the Jones collection—it stands in company with several others of the Sprimont rococo type. Notice the oblique fluted mouldings of the upper part (a *motif* taken directly from the silversmith), which are accentuated by deep blue and gold lines on a white ground (this is a scheme of decoration above all characteristic of Derby china). The reserved panels on the body of the vase are painted with pastoral subjects. Here there is little change, but around these panels the ground is completely covered with flowers of various kinds—each species can be made out, but full-blown double roses predominate. These full-blown roses are a note that distinguishes English porcelain from this time onwards. As they become larger, and occupy a more prominent place, the painting loses all trace of decorative feeling. Billingsley carried them in his wanderings to all the porcelain factories of England, and we are finally landed in the monstrosities of Rockingham and the insipidities of Nantgarw.

One point we have omitted to mention in our description of the Chelsea-Derby vase at South Kensington. The handles, winged figures somewhat classically treated, are of unglazed ware. This is an example of the famous Derby biscuit, or bisque, as it is sometimes called, which we now know was made as early as 1771. The greatest care was taken in the preparation of this biscuit ware; any piece with the slightest defect was rejected. The material allows of a sharpness and high finish which would be lost in the thick covering of the glazed ware. The paste in many of the examples has acquired a somewhat shiny surface, as if covered with a skin of glaze. The best known specimens date from the last years of the

century, when Spengler, a modeller from Zurich, was engaged by the second Duesbury. In them we see exemplified that mixture of the sentimental and the pseudo-classical so much admired at this time. The shepherd with his dog (there is an example at South Kensington) is taken from a Roman relief, the head perhaps from an Antinous. The shepherdess has been reading Richardson, if not Jean Jacques, and they both take life very seriously.

We find, however, the Chelsea-Derby mark on enamelled figures that differ little from the earlier and more frivolous type. These survivals, as it were, of the rococo school stand no longer upon a scroll pediment, but on a rocky ground, amid careful reproductions of natural objects, stumps of trees, shells, or what not. The colours, too, have become somewhat stronger; the pale, greenish blue of the earlier pieces is replaced by a fuller turquoise hue.

It was at this time, or a little later, that the process of 'casting' was introduced for these statuettes. This was a process of English origin, though it is now extensively used at Sèvres and elsewhere abroad. We have described the various modifications of this plan in a previous chapter (p. 25). In the case of these statuettes, the figure is first modelled in tough clay; the head and limbs are then cut off. A plaster-of-Paris mould is then made of each of the separate parts, a cream-like slip is poured into the mould and quickly poured out before all the water is absorbed, a layer of the paste remaining on the sides of the mould. This layer is detached when sufficiently dry; the pieces are then joined together by means of the same slip, and the outline of the figure sharpened with a modelling tool.[1] Porcelain made by this casting process is not so dense as that made on the old system;

[1] These details I take from the notes of a man who had formerly practical experience of such work—Mr. Haslem, in his *Old Derby China Factory*.

its specific gravity is appreciably lower. The moulding or repairing knife may be, to some extent, replaced by the use of a brush, but a less sharp outline is obtained in this case. In the furnace these figures have to be supported by an elaborate scaffolding of props, and the shrinkage of the clay during the firing is another source of difficulty.

In the British Museum may be seen a garniture of vases, of a type very characteristic of the early Chelsea-Derby time. A pale turquoise ground is overlaid with white flowers in low relief. This is but a modification of the German *schnee-ball* decoration. Somewhat later the *pâte tendre* of Sèvres is evidently taken as a model, as in the *cabaret* which was given by Queen Charlotte to one of her maids of honour. This 'equipage,' to give it its English name, has also found its way into our national collection. It has the rare jonquil ground with a border of blue and gold.

For smaller objects, for cups, saucers, and plates, a simpler style of decoration is in favour. The wreaths of little blue flowers, forget-me-nots, and corn-flowers (the French *barbeau*), relieved with touches of green and gold, remind one of the similar ware made at Sèvres, and more especially at some of the smaller Parisian factories during the early years of Louis XVI.

The elaborately decorated 'old Japan' was much copied at Derby, but so unintelligently that the patterns degenerated into meaningless forms, known as 'rock Japan,' 'witches Japan,' and even 'Grecian Japan'! This was the beginning of a barbarous style of decoration, in vogue in the Staffordshire potteries at a later time both for porcelain and earthenware, in which scattered members of the original scheme are jumbled together at the whim of the ignorant painter.[1]

[1] And yet the colours are sometimes brilliant and effective—for example, on a large dish or tray of Spode ware at South Kensington (see below, p. 373). This strange 'breaking-down' of the old Japanese patterns may be compared

The subsequent vicissitudes of the Derby factory may be traced in the marks in use at successive dates. The combined anchor and D was apparently employed at Chelsea as long as the factory existed, but at Derby a crown with jewelled bows was introduced in 1773 (PL. E. 75), perhaps on the occasion of some *velléité* of royal patronage, although we have no definite evidence of anything of the kind.[1]

Somewhat later we find two batons crossed, with three dots in each angle (similar to the 'billiard' mark on some Dutch porcelain) inserted on Derby porcelain between the crown and the letter D (PL. E. 74).

William Duesbury died in 1786. His son, the second William, shortly before his death in 1796, took into partnership Michael Kean, a miniature-painter, and now a K was combined with the D on the mark. In 1813 the factory was leased to Robert Bloor by the third William Duesbury, and after that time we hear no more of that family in connection with Derby. Bloor conducted the works on 'business principles' until his death in 1846. If for nothing else, his name should be remembered in connection with a wonderfully brilliant claret, or *rouge d'or*, that he succeeded in making. There is a vase with this ground in the Jermyn Street collection which has excited the admiration of foreign experts. Bloor used the old mark, in red, up to 1831 at least. Before that time, however, the crown had lost the jewels upon its bows. At this period china-clay and china-stone were more and more used, and the porcelain became harder and

to the scattered fragments of the original Greek design that we see on the pre-Roman coins of Gaul and Britain.

[1] It appears from a correspondence that has been preserved that in 1791 the second Duesbury was looking out for royal support. 'A gentleman about the court' whom he consulted recommended him to seek the patronage of the Duke of Clarence, for, said he, 'the duke is the *only prince that pays the tradespeople*.' At that time there was great jealousy of the Worcester works, where the king had lately made large purchases.

somewhat opaque. As a consequence of the higher melting, or rather softening, points of both body and glaze, the enamels lost something of their brilliancy and lustre.

The present porcelain factory at Derby cannot strictly be regarded as a direct descendant of the old works on the Nottingham Road, whose career came to an end after Bloor's death in 1846.

WORCESTER.—We have seen how William Duesbury, an obscure and illiterate painter of china images from the Staffordshire potteries, had after the absorption of the factories of Chelsea and Bow (as well probably as that established by Littler in Duesbury's own country) become a kind of china king.

There was one factory, however, skilfully managed and established on a firm financial basis which remained entirely independent of him. Of the origin of this factory—the Worcester China Works—we have, quite exceptionally, a full record. These works, we may add, are also exceptional in another respect—they have had a continuous history from the year of their foundation to the present day, that is to say for more than a century and a half. Mr. R. W. Binns has in his possession a copy of the articles of association 'for carrying on the Worcester Tonquin manufacture.'[1] They are dated January 4, 1751. The forty-five shares of £100 each were divided among fifteen original partners, of whom two claim to possess the secret, art, mystery, and process of making porcelain. These two were John Wall, doctor of medicine, and William Davis, apothecary. We have no record of the preliminary experiments said to have been made by these two men in a laboratory over the apothecary's shop, nor do we know for how long these experiments had

[1] Why *Tonquin*, of all places? We should rather have expected to find Nankin or Canton, as at Bow.

been carried on. Two workmen, however, who had already been employed by them for some time, were retained by the new company and well paid as an inducement to keep secret the process of manufacture. It was the apothecary Davis, probably, who brought the scientific knowledge, but Dr. Wall also, besides being a portrait-painter who had acquired some renown at Oxford and in his native town (he had made designs for painted glass among other things), was an energetic, practical man with some scientific pretensions; nor must we forget the two workmen, who probably had a good deal to say in the matter.

A site for the new factory was found in Warmstry House, a fine old mansion that had belonged to the Windsor family, situated some hundred yards to the north of the cathedral, and the kilns were erected in the grounds which sloped down to the river. The biscuit kiln and the glazing-kiln were enclosed in long roofed buildings apparently without conspicuous chimneys. Only the great kiln for the 'segurs' takes the conical shape that we associate with pottery-ovens.[1] The pressing, modelling, and throwing galleries were established in the old house itself, where there was also a 'secret room.'

The little that we know of the composition of the paste, or rather pastes, for there were two or more varieties used for the fine and common ware respectively, is derived from a paper (now in the possession of Mr. Binns) drawn up in 1764 by Richard Holdship, one of the original partners. In that year Holdship (he was an engraver who had been associated with the introduction of the transfer process) became bankrupt,

[1] See the engraving in the *Gentleman's Magazine* for August 1752. This was in the nature of a puff. In the corner we read 'A sale of the Manufacture will begin at the Worcester Music Meeting on September 20th, with great variety of ware and, 'tis said, at a moderate price.' Edward Cave, the originator of the *Gentleman's Magazine*, and 'the father of parliamentary reporting,' was an important shareholder of the Worcester works.

and now entered the service of Duesbury and Heath at Derby. From this paper we learn that the ordinary paste used at Worcester contained about two-thirds of a glassy material (a mixture of flint-glass, crown-glass, and a specially prepared frit), and one-third of a soapy rock, that is to say of a steatite, from Cornwall. The composition of the glaze is interesting:—it contained, besides the usual constituents, 14 per cent. of 'foreign china,' 2½ per cent. of 'tin-ashes,' and 0·3 per cent. of smalt. We should add that on the whole the glaze of Worcester china is somewhat harder than that of other English soft-paste wares. Along with this recipe is 'a process for making porcelain ware, without soapy rock or glass, in imitation of Nanquin, being an opaque body.' This 'Nanquin' ware was made by mixing bone-ash with an equal weight of a very silicious frit: to the mixture 8 per cent. of Barnstaple clay and a small quantity of smalt were added.

We learn from other sources (*e.g.* Borlase's *History of Cornwall*, 1758) that the agents of the Worcester company were busy searching for and purchasing steatite rock, especially at Mullion, in the Lizard district.[1]

Of the porcelain produced during the first sixteen years of the Worcester factory we know a little more than of that of the corresponding time at Derby. This was an eclectic period: the wares (and the marks also) of Chantilly, Meissen, and Chelsea were copied. It was the Oriental models, however, that were most in favour, especially the blue and white of China, small pieces of which were imitated with some success. For the enamelled ware, the brocaded Imari, our 'old Japan,' rather than the older Kakiyemon ware, served as a

[1] Steatite is essentially a silicate of magnesia. We have seen that a soapy rock, probably of this nature, entered at times into the composition of the porcelain made at King-te-chen. At a later time silicate of magnesia, in various forms, has found its way into the hybrid pastes of Italy and Spain.

type. At this time, too, a strange attempt was made to copy the marks of the Chinese porcelain. We can trace, sometimes, the well-known characters of the Ming dynasty ('great' and 'bright') (PL. E. 76). In other cases Arabic numerals are arranged so as roughly to resemble a Chinese character. The idea was probably taken from old Delft ware on which similar marks are found, as also occasionally on Bow and on some Salopian porcelain. Again, we find a degenerate seal character, perhaps derived from the popular Japanese mark *Fu* (happiness), taking a form something like the design of a Union Jack (PL. E. 78). The decoration of the Chinese *famille rouge* was also copied—we find it, for example, on the edges of little white cups and bowls with basket-work designs in low relief, of which there are some specimens at South Kensington.

To an early period, also, belongs the ware decorated in black (or less often in lilac), with figures and landscapes, 'transferred' by a variety of ingenious processes, which we need not describe here, from an engraved copper-plate. Used before this time on enamels at Battersea and on earthenware at Liverpool, it was with the 'jet enamelled' ware of Worcester, printed from the plates specially made for the purpose by Robert Hancock (who had previously been employed at Battersea under the Frenchman Ravenet), that the new process was above all associated. Here, for the first time perhaps in its history, porcelain was 'made to speak,' to use Napoleon's phrase. On it the hero of the day was immortalised: in 1757 we find Frederick the Great, crowned by a winged Genius; at a later time the Marquis of Granby and the elder Pitt. It is Hancock, it would seem, that we must regard as the *capo scuola* of another 'school of decoration,' one which, spreading at a later time to Staffordshire, has been carried to all parts of the world where transfer-printed English crockery has penetrated. The basis of this decoration

is a classical ruin—generally a fragment of the entablature of a Roman temple supported on a few columns; add to this a pointed building something between an obelisk and a pyramid,[1] the whole enclosed in a framework of conventional trees. Upon how many millions of jugs and basins was this pattern repeated, in black, in green, and in lilac! At some future day, by the study of potsherds so decorated collected in many lands, an archæologist may be able to trace the course of English commerce in the nineteenth century, and to draw strange inferences as to the state of the arts at that time in our country.

This 'jet-enamelled' transfer was printed over the glaze; sometimes, to enliven the effect, other colours, painted by hand, were added, with disastrous results. In the blue and white printed ware, on the other hand, the cobalt pigment is applied under the glaze. The paste of this transfer-printed porcelain is often of good quality and very translucent, and the finer earlier specimens are much sought after by collectors. We have seen that at least from the *cultur-historisch* point of view this printed china is not without interest.

After 1763 Sprimont's factory at Chelsea was only working at irregular intervals. Some time later, about 1768, many of the enamel-painters migrated to Worcester, where capable artists seem to have been in great demand. It is usual to attribute to this migration a new scheme of decoration that came into vogue at Worcester in the seventies. This was the period of the vases with deep blue grounds and panels brilliantly painted with flowers and bright-plumaged tropical birds. The *bleu du roi* ground (we must remember that, like the similar grounds at Chelsea and Longport, this

[1] These two buildings may be probably traced back to the Temple of Vespasian, in the Forum, and to the Pyramid of Cestius respectively. Hancock must have got his materials from French and Italian engravings after Claude and Pannini.

pigment was painted *sous couverte*) is often covered with the salmon-scales in a deeper tint so characteristic of the period; at other times it is replaced by a *poudré* blue. The hand of the Chelsea artist is to be recognised in the decoration of the panels, but the vases are generally of simple contours, often octagonal and, on the whole, following Chinese shapes. It is this richly decorated ware, produced especially between 1770 and 1780, which now commands such extravagant prices in the London market.

On the other hand, the new classical forms already in favour at Derby and in France were not as yet adopted at Worcester—they came in later, and then in a more debased form. In fact, the special mark of this, the finest period in these works, is the application of a rich style of painting that we generally associate with rococo shapes, to vases which otherwise retain the form and decoration of their Chinese prototypes. Somewhat later, from Sèvres, no doubt, came the canary yellow, generally poor in tone and of uneven strength. The simple floral wreaths of the Louis XVI. period are here represented by the pretty 'trellis' design, green festoons hanging from reddish poles (PL. XLVI.).

Much of the Worcester porcelain was from an early time decorated in London. In 1768 we find Mr. J. Giles (no doubt the 'Mr. Gyles of Kentish Town' to whose kiln Thomas Craft took his famous punch-bowl to be 'burnt' at a charge of 3s.) described in an advertisement as 'china and enamel painter, proprietor of the Worcester Porcelain Warehouse, up one pair of stairs in Cockspur Street.' Here the nobility and gentry may find 'articles useful and ornamental curiously painted in the Dresden, Chelsea, and Chinese taste.'

At a later time the Baxter family occupied much the same position as Giles. The elder Baxter had

PLATE XLVI. WORCESTER

workshops at Goldsmith Street, Gough Square,[1] and here white porcelain from many sources was decorated. There is a curious water-colour drawing, representing the interior of this workshop, at South Kensington. It is the work of the younger Baxter, famous in his day as a painter on porcelain. The pale, anæmic faces of the artists—one of them wears a large pair of spectacles—crouching over their work in a narrow, crowded room, may be taken as evidence that this occupation was injurious both to the eyesight and to the general health (PL. LXVII.).

To return to the general history of the Worcester factory. In 1770 we hear of a strike among the painters, who were alarmed at the spread of the under-glaze printing process. The movement was not unconnected, probably, with the introduction of new blood from Chelsea. In 1772 there was a general shuffling-up and reorganisation of the company, with the result that Dr. Wall and the two Davises, father and son, finally gained possession of nearly all the shares. But the doctor died in 1776, and seven years later the whole concern was sold to Mr. Flight, a London jeweller, who had previously acted as agent for the company. At the same time Chamberlain, an original apprentice, and a man who had taken a leading part of late in the artistic management, seceded from the company, and, with his son, set up an independent manufactory.

After the visit of George III. to the works in 1788, the factory became 'Royal,' and this is, perhaps, the nearest approach to a royal patronage that we can find in the history of English porcelain. In time the Chamberlain offshoot came to flourish more than the original stock, and finally, in 1840, the older firm,

[1] Dr. Johnson was for a long time a close neighbour—his well-known interest in the manufacture of porcelain must have brought him into contact with the Baxter family. We find a Baxter mentioned in Bowcocke's notes as early as 1751. See Chaffers, p. 896.

then known as 'Flight and Barr,' was absorbed by it. Towards the end of the eighteenth century many magnificent services of china were made for the royal family, painted with finished pictures in the style admired at the time. The porcelain was again 'made to speak.' In answer to the Napoleonic victories figured on the ware of Sèvres, we in England painted naval emblems and portraits of Lord Nelson on our plates and dishes.

The joint-stock company which now owns the Worcester factory was founded in 1862. Since that time great efforts have been made to keep on a level with the artistic movements of the day. Much attention has been paid to the modelling of the handles, the stands and the covers of the vases, so that some of them are works of art by themselves. The porcelain has been designed and decorated in 'the style of the Italian renaissance,' in the 'French style,' then for a time a Japanese influence prevailed, to be followed by vases in 'Persian style,' and then back to the 'Florentine renaissance' once more. But running through the whole, we may perhaps trace a *soupçon* of the French art of the later nineteenth century.

Apart from the imitative marks of the early period which we have already mentioned, we find at an early date the letter W, either for Wall or Worcester (so the D of the rival works may stand either for Derby or Duesbury). Another early mark, borrowed probably from Frye and the Bow works, is the T. F. monogram which occurs on some underglaze blue and white pieces. The crescent (PL. E. 77), used up to 1793, is chiefly found on ware decorated with transfer printing: when this printing is in blue under the glaze, a solid or ruled crescent is found. The later firms, as 'Flight and Barr' and 'Chamberlain,' print their names in full. A number of small marks found on Worcester china—more than seventy have been noted—were added in most cases to identify the painters and gilders.

SMALLER WEST OF ENGLAND SOFT-PASTE FACTORIES.

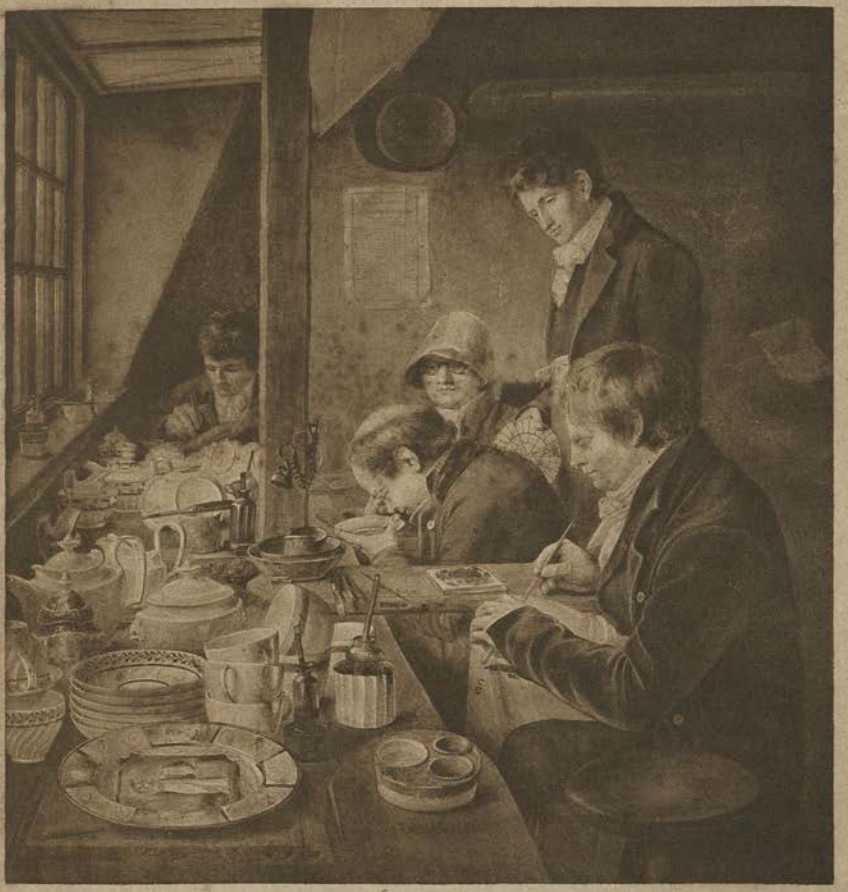
This will be the most convenient place to say something of a small group of factories where china was made towards the end of the eighteenth century. It is a distinctly West of England family, owing its origin in a measure to Worcester, but also forming a link between that factory and the Staffordshire works. We include in it the Shropshire porcelains of Caughley and Coalbrookdale, together with Swansea and Nantgarw.

CAUGHLEY.—The 'Salopian Porcelain Works' were started in 1772 at Caughley, near Broseley, in Shropshire, a neighbourhood long famous for its earthenware. It was here that Thomas Turner, a man of some social standing who came from Worcester, devoted himself more especially to printing in blue under the glaze. It was at Caughley, it would seem, about 1780, that the famous 'willow pattern' was first used. There is in the British Museum a curious little oblong dish that shows this design in an undeveloped form. Turner, it is said, first printed complete dinner-services, in dark blue, with this pattern. Not long after this he went to France, and brought back a batch of French painters, whose influence may perhaps be seen in the ware made at a later time at Coalport. Some of the printed work is delicately executed, and when the decoration is judiciously heightened with a little gilding, the effect is not unpleasing. We hear also of dinner-services painted with 'Chantille sprigs,' and Turner also supplied Chamberlain with plain white ware to be subsequently decorated at Worcester. At a later time much gilding was applied to a richly decorated porcelain. Some of this ware is stamped with the word 'Salopian,' other pieces have the letters S or C printed or painted under the glaze; but both Dresden and even Worcester marks were also used. Two men, at a later time representatives of the industrial phase of porcelain, John Rose

and Thomas Minton, were trained in these short-lived works.

COALPORT OR COALBROOKDALE.—Here, on the left bank of the Severn, nearly opposite the last-named factory, John Rose began making porcelain soon after 1780. In 1799 he purchased from Turner (whose apprentice he had been) the Caughley works, and in 1814 he removed the whole plant to Coalbrookdale. Here, too, came Billingsley after the closing of the Nantgarw works, and here he worked till his death in 1828. During the first half of the nineteenth century the firm of John Rose and Company was a successful rival to the Davenports, Mintons, and Copelands. Rose excelled in the production of gorgeous vases decorated with picture panels, and Billingsley kept up the supply of his English roses. The older wares of Sèvres and Chelsea were copied not unsuccessfully, and the appropriate mark was not omitted. The firm seems to have above all prided itself upon the beauty of its *rose Pompadour* grounds, and at a later time, after 1850, both this ground and the turquoise blue were largely applied to the pseudo-Sèvres porcelain that found its way to the London china-shops. In 1820 Rose was granted a medal by the Society of Arts for a leadless glaze, compounded of felspar and borax. The factory at Coalport continues to produce much china on the same lines.

Near at hand, at Madeley, some very close imitations of the old Sèvres were made by Randall between 1830 and 1840. For the origin of this English Sèvres we must go back to the year 1813, when we hear of the agents of London dealers buying up white and slightly decorated Sèvres soft paste. Any enamel colour on them was removed by hydrofluoric acid, and the surface was richly decorated in the Pompadour style. Randall soon after this time was engaged with similar work in London: his turquoise blues are especially praised.



Water-colour Drawing. Enamel Painters at work.

SWANSEA AND NANTGARW.—At the beginning of the nineteenth century some works at Swansea, where a so-called 'opaque porcelain' had been lately manufactured, were purchased by Mr. Lewis W. Dillwyn. Mr. Dillwyn was a keen naturalist: he induced Mr. Young, a draughtsman who had been employed by him in illustrating works on natural history, to learn the art of enamel-painting on porcelain. Young devoted himself to painting birds, shells, and above all butterflies. In spite of the aim at scientific accuracy, the artistic effect of these delicately painted butterflies, scattered here and there over the dead white paste, is not unpleasant. There were some good specimens of this form of decoration in the old Jermyn Street collection, but most of them, I think, are not painted on a true porcelain.

Meantime, at Nantgarw (*Anglicè* Nantgarrow), some ten miles north of Cardiff, a small porcelain factory had been established by one William Beely and his son-in-law, Samuel Walker.

Mr. Dillwyn, who visited the Nantgarw works in 1814, at the instigation of his friend Sir Joseph Banks, found these two men making an admirable soft-paste porcelain, remarkable for its translucency. 'I agreed with them,' so Mr. Dillwyn reported, 'for a removal to the Cambrian pottery [*i.e.* to Swansea], where two new kilns were prepared under their direction. When endeavouring to improve and strengthen this beautiful body, I was surprised at receiving a notice from Messrs. Flight and Barr of Worcester, charging the parties calling themselves Walker and Beely with having clandestinely left an engagement at their works.'

Beely was in fact no other than Billingsley, the wandering artist and 'arcanist' who in 1774 was apprenticed to Duesbury at Derby, and had there learned the art of painting flowers on porcelain. We hear that in 1793 he was also landlord of the 'Nottingham Arms,' but in spite, or perhaps rather in consequence, of thus

having two strings to his bow, he soon after left Derby, and for twenty years led a roving life. In 1796 he was at Pinxton, and it was here, says Mr. W. Turner (*The Ceramics of Swansea and Nantgarw*), whom I now follow, that he perfected his famous granulated frit body. Then follows an obscure period, during which we hear of Billingsley at Mansfield, and again as a china manufacturer at Torksey, in Lincolnshire. Finally, in 1808, he settled down to work at Worcester under the name of Beely. His later migrations to Nantgarw, to Swansea, and finally to Coalport, we have already referred to.

Three years after Billingsley's removal to Swansea, the manufacture of porcelain was abandoned by Mr. Dillwyn: this was in 1817, barely six years from the time when Billingsley started the Nantgarw works.

It is not quite certain whether the marks that distinguish the two wares—'Nantgarw' above the letters 'C. W.' in one case, 'Swansea' sometimes with the addition of a trident (PL. E. 80) in the other—can always be relied on to distinguish the two factories: the former mark may have continued in use after the removal to Swansea.

The paste of some of the ware made at Swansea was very different from that of Billingsley's glassy porcelain. We know that both china-clay and steatite from the Lizard were employed here, producing a somewhat hard and opaque body.

Apart from their paste, renowned for its absolute whiteness and considerable translucency, Billingsley and his pupils, Pardoe and Walker, have acquired a certain fame by their enamel-painting on this Nantgarw porcelain. Life-size roses, auriculas, tulips, and lilies were their favourite flowers. This was the culmination, as it were, of the school that delighted above all in the double rose, a not very paintable flower, at least in a decorative point of view. We saw its beginnings at Derby more than thirty years before this time.

But Baxter the younger, whom we have come across at his father's workshop in Gough Square, painted figure-subjects on the Swansea porcelain, and some of the translucent ware of the Nantgarw type was sent up to London unenamelled, there to be converted into the old soft paste of Sèvres.

Before we return to the West of England to treat of the true hard porcelain of Plymouth and Bristol, there remain to be mentioned briefly a few unimportant factories of soft paste—unimportant, that is, from the point of view of art.

LOWESTOFT.—Taking advantage of some suitable clay found in the neighbourhood, and of the fine silvery sand of the shore, a manufactory of soft paste was established at Lowestoft about 1756. Later on we find some references to a 'Lowestoft Porcelain Company.' The ware produced was chiefly blue and white, with views of the neighbourhood, but other small pieces are found crudely painted in colour. The execution of much of this ware is very summary, and the glaze is often dull and spotted. A blue and white plate in the British Museum, with *poudré* ground and panels painted with views of Lowestoft and the neighbourhood, is an unusually favourable specimen. More commonly we find jugs and ink-pots with inscriptions—'A Trifle from Lowestoft,' etc.—and with dates in one or two cases ranging from 1762 to 1789. Whether any hard porcelain from other sources was ever painted at Lowestoft is very doubtful.[1]

The 'Lowestoft porcelain' of the dealers is now known to have been painted by Chinese artists at Canton. That this is so was conclusively proved many

[1] The teapot in the Schreiber collection with the mark 'Allen, Lowestoft,' must be regarded as a *supercherie*. The painting on it of a crucifixion is evidently by a Chinese hand. This teapot has, however, been connected with an Allen of Lowestoft, a porcelain enameller and amateur glass-stainer.

years ago by Sir A. W. Franks. The thrashing out of the question had the advantage of throwing much light on the origin of this curious pseudo-European decoration. The greater part of this porcelain painted at Canton is covered with elaborate armorial designs, and it was made not only for England but for other European countries that traded with the East. The history of this Sinico-European ware is well illustrated in a large collection brought together chiefly by the late Sir A. W. Franks and now in the British Museum.[1]

LIVERPOOL.—Pottery had been an article of export from Liverpool from an early date, and much of the ware exported (it went above all to America) was made in the neighbourhood. During the sixties of the eighteenth century more than one of the local potters began to make a soft-paste porcelain. One of these men—Richard Chaffers—we find scouring the county of Cornwall in search of soap-stone and china-clay, as early probably as the year 1755. Professor Church gives the recipe for the 'china body' used in 1769 by another potter—Pennington. The materials are bone-ash, Lynn sand, flint, and clay,[2] the latter probably from Cornwall.

There is a good deal of uncertainty as to the identification of the Liverpool china: some of it has perhaps been classed as Worcester or Salopian. Examples of the ware attributed to this town may be found at South Kensington; they are somewhat rudely printed in a heavy dark blue. But it is probable that very little true porcelain was made at Liverpool in the eighteenth century.

Early in the next century an important factory for

[1] Some recent discoveries of moulds make it, however, probable that the early wares of Worcester and Bow were imitated at Lowestoft.

[2] We are told that the first three of these substances are *to be fritted together*, but this would be manifestly impossible. The recipe is curious as being an anticipation of the materials used by Spode thirty years later. But we must receive most of these recipes that have thus come down to us *cum grano*.

pottery and porcelain was founded on the opposite side of the Mersey, and thither many workmen were brought from Staffordshire. Porcelain was made there until the year 1841. The ware was marked 'Herculaneum,' the name of the works. We find at times a bird holding a branch in its beak used as a mark. This is the 'liver,' the crest of the town of Liverpool. The liver, indeed, is occasionally found on ware of an earlier date.

PINXTON.—Our chief interest in the factory established in 1795 at Pinxton, on the borders of Derbyshire and Northampton, by John Coke, is derived from the temporary residence there of Billingsley. This was his first stopping-place after leaving the Derby works: here he remained until 1801, and it was here, probably, that he developed the 'china body' used by him afterwards at Nantgarw. There were some pleasing specimens of the Pinxton ware in the old Jermyn Street collection simply decorated with 'French twigs' in blue and green. The ice-pail at South Kensington, with canary ground and frieze of roses, illustrated in Professor Church's little book, was probably painted by Billingsley.

At CHURCH GRESLEY, in the extreme south of Derbyshire, an ambitious attempt to make a porcelain of high quality nearly ruined Sir Nigel Gresley, the representative of the old family long settled there. This was in 1795, and after three successive owners had sunk their fortunes in the factory, the works were finally closed in 1808. I can point to no example of porcelain that can with certainty be attributed to these kilns. Pottery and encaustic tiles are, however, still made in the district.

ROCKINGHAM PORCELAIN.—At Swinton, in the West Riding of Yorkshire, not far from Sheffield, pottery-works were established in the eighteenth century on the estates of the Wentworth family. These potteries were called after the Marquis of Rockingham, who was more than once at the head of the Government, and the name was carried over to the porcelain which was made there

by Thomas Brameld in the next century. This factory was in existence from 1820 to 1842, and the ware turned out well represents the taste of the time. 'Brameld,' we are told, 'spared no labour or cost in bringing his porcelain to perfection, and in the painting and gilding he employed the best artists.' The ornate dinner-services made by him for William IV. and other royal personages probably surpassed in elaborate decoration and expense of production anything of the kind ever made in England. At South Kensington is a gigantic vase—it is more than three feet in height,—on the top is a gilt rhinoceros, an oak branch embraces the sides, the base is modelled in the form of three paws, and the whole body of the vase is covered with a series of highly finished pictures, chiefly flower pieces. This vase is a unique example of everything that should be avoided in the modelling and decoration of porcelain. On some of the Rockingham china we find a griffin as a mark, in honour of Lord Fitzwilliam, who had succeeded to the Wentworth estates on the death of his uncle, Lord Rockingham.

Already, at the commencement of the nineteenth century, the manufacture of porcelain in England was beginning to be concentrated in the hands of a few large firms in the pottery district of North Staffordshire, and here a definite type of 'china body' was established suitable for practical use. Bone-ash mixed with china-stone and china-clay from Cornwall were and still remain the essential constituents of this paste: to these materials ground flints are sometimes added.

Although it is apart from our purpose to trace the history of the great Staffordshire firms, we must say a word of one family—the Spodes of Stoke-upon-Trent. The firm founded by them was in a measure the common centre from which the later establishments had their origin. Josiah Spode the elder had been making

pottery of various kinds at Stoke since the year 1749; he it was who introduced the blue willow pattern to the Staffordshire potteries. It was to his son, the second Josiah, that the credit of first using bone-ash as an ingredient of porcelain was so long ascribed. The statement thus put is of course absurd. His real merit lay in abandoning the use of a frit and adopting a china-body consisting simply of a mixture of china-stone and china-clay from Cornwall, with a large proportion of bone-ash, and thus settling once for all the composition of the industrial porcelain of England, a ware differing in many respects from the eighteenth century soft pastes, and one capable of being manufactured on a large scale without the risks that always attended the firing of the latter. His 'felspar porcelain,' often so marked, is of less consequence, but by using pure felspar instead of china-stone he forestalled the practice since adopted by many continental works, where felspar of Scandinavian origin is now largely used.

Later on, when William Copeland joined the firm, they became the most important makers of porcelain and earthenware in England, and the Continent was inundated with their wares. The founder of the rival firm of Minton was a Shropshire man: at the end of the eighteenth century he had been apprenticed to Turner at Caughley, and he, too, worked at one time in the Spode factory. At a later date both firms claimed the credit for the invention of an improved kind of biscuit, the Parian ware, of which much was heard about the middle of the last century.

There is at South Kensington a representative collection of the finer Spode wares, presented by a niece of the second Josiah. Great technical perfection was attained, and the enamel colours are remarkably brilliant and effective. I have already referred to a large tray, on which the brocade pattern of the old Imari is seen in the last stage of decay. The elements of the

design have fallen to pieces, and lie helplessly scattered over the surface. Yet this is a carefully finished piece, and the enamels are of good quality. I take this tray as a typical example of a style of decoration with coloured enamels both on porcelain and earthenware which prevailed not many years ago on wares in domestic use. Along with the transfer-printed *camaïeu* mentioned on page 360, these wares found their way to most parts of Europe and America.

BELLEEK.—Probably the last attempt that has been made with us to establish a new factory of porcelain was at Belleek, near Lough Erne, in northern Ireland. Here, under the direction of Mr. Armstrong, a very fine and translucent paste was first made in 1857, and a peculiar nacreous lustre was given to the ware by the use of a glaze prepared with a salt of bismuth. The local felspar was employed together with china-clay brought from Cornwall. Some care was given to the modelling in imitation of shells and corals. Little of this ware, which may be classed as a hard-paste porcelain, has been made of recent years.

CHAPTER XXII

ENGLISH PORCELAIN—(*continued*).

THE HARD PASTE OF PLYMOUTH AND BRISTOL

THE manufacture of true porcelain had but a short life in England. The ware has no especial artistic merit, nor was it ever commercially of much importance. And yet in the history of this short-lived attempt to imitate the porcelain of China and Saxony, we find so many points (in the composition and technique of the ware above all) that illustrate and confirm what we have said in some early chapters, that we shall have to follow up this history somewhat closely.

Moreover, the two men, thanks to whose energy and scientific knowledge the difficulties attending the first manufacture of the new substance were overcome, interest us in more ways than one. There is, in the first place, Cookworthy the quaker, who, once he had solved the practical problem that had hitherto baffled all the potters and arcanists of England and France, was content to return to a quiet life among the little *coterie* of 'friends' at Plymouth. The other is Champion, the friend of Burke, who, after his business had been ruined by the American War, preferred to end his life as a farmer in the new country, with whose struggle for independence he had throughout sympathised.

The two letters of the Père D'Entrecolles on the

manufacture of porcelain in China were known through their publication in Du Halde's collection soon after the date (1722) at which the second one was written. The search for the essential constituents of a true porcelain at once began. One of the first results of this search was the appearance of the 'Unaker, the produce of the Cherokee nation of America,' which is mentioned in Frye's patent of 1744. Shortly after the middle of the century, as we learn from Borlase's *History of Cornwall* (published in 1758), the attention of more than one manufacturer of porcelain was directed to that county. But no one probably was so well equipped for the search as William Cookworthy, the druggist of Plymouth—he was already thoroughly acquainted with the geology of the county. Cookworthy too, must have carefully studied the letters of the Jesuit missionary. In the memoir written by him at a later date (it is given in full in Owen's *Two Centuries of Ceramic Art at Bristol*) he clearly distinguishes "*petunse*, the *Caulin*, and the *Wha-she*,' or soapy rock.[1]

In fact it is this that gives to Cookworthy so important a place in the history of porcelain. He was probably the first in Europe to attack practically, and finally to conquer, the problem of making a true porcelain strictly on the lines of the Chinese as interpreted by the Père D'Entrecolles. Böttger's success, if one is to accept the official German account, was rather the result of some happy accident

[1] This 'soapy rock' was at once identified with the steatite of the Lizard. The other porcelain experts, from Worcester and from Liverpool, who visited Cornwall about this time, seem to have devoted their attention more especially to this substance. They were thus, to some extent, on a false scent, for the Père D'Entrecolles probably somewhat exaggerated the importance of this *Wha-she*, and, moreover, as has been shown by later French investigation, most of the material of soapy consistency employed at King-te-chen is no true steatite or magnesian silicate, but rather a more fusible variety of the petuntse, containing much mica.

—an accident, it is true, of which only a man of genius knows how to avail himself.

Cookworthy had his attention directed to the subject by an American quaker, of whom he writes, in May 1745: 'I had lately with me the person who hath discovered the China-earth. He had several examples of the China ware of their making with him, which were, I think, equal to the Asiatic; . . . having read Du Halde, he discovered both the China-stone and the Caulin.'[1]

Both the petuntse and the 'Caulin' were first identified by Cookworthy at Tregonnin Hill (between Marazion and Helston)—this was about 1750. The nature and mode of occurrence of both the growan or moor-stone and of the growan clay, to use the local names, are admirably described by him. Soon after this he found the two materials at St. Stephen's, between Truro and St. Austell, in the centre of what is now the great china-clay district of Cornwall.

There must have been many experiments with the new materials, and many failures, before the year 1768, when Cookworthy took out his patent, and with the pecuniary assistance of Thomas Pitt of Boconnoc (later Lord Camelford) started his factory at Plymouth. It is doubtful whether this factory was in existence for more than two years. In any case there is evidence that already, by the year 1770, the 'Plymouth New Invented Porcelain Manufactory' was at work at Bristol.

We have proof, too, that before this time Richard Champion and others had been working in the latter

[1] Was Frye, the painter of Bow, who first made use of the American earth, also a quaker? Cookworthy and Champion, it appears, first became acquainted with one another through the medium of one of the Bristol Frys, and it is known that moulds and patterns from Bow were used at Plymouth. It is at least remarkable that we should be indebted for our knowledge of the constitution of Chinese porcelain, in the first place, to a Jesuit father, and then to a member of the Society of Friends; while, on the other hand, Böttger—like Cookworthy, a druggist—was an adept in the dark arts.

town with the new Cornish materials. Champion had been asked by Lord Hyndford to make a report upon some kaolin sent to him from South Carolina. In his reply he says: 'I had it tried at a manufactory set up some time ago on the principle of the Chinese porcelain, but not being successful, is given up. . . . The proprietors of the works in Bristol imagined they had discovered in Cornwall all the materials similar to the Chinese; but though they burnt the body part tolerably well, yet there were impurities in the glaze or stone which were insurmountable even in the greatest fire they could give it, and which was equal to the Glass-house heat. . . . I have sent some [*i.e.* of the Carolina clay] to Worcester, but this and all the English porcelains being composed of frits, there is no probability of success.' This is written in February 1766, before the date of Cookworthy's patent.[1]

Meantime, in France, two men of some scientific pretensions, both of them members of the *Académie des Sciences*, Lauraguais[2] and D'Arcet, had discovered the kaolin deposits near Alençon. Lauraguais had soon after 1760 succeeded in making some kind of porcelain with the materials he had found. He was, however, forestalled by Guettard, a rival chemist in the service of the Duke of Orleans, who in November 1765 read a paper before the *Académie* on the kaolin and petuntse of Alençon. Lauraguais, in disgust, after a violent rejoinder, came over to England.

In a curious letter dated April 1766, Dr. Darwin, writing to Wedgwood, says: 'Count Laragaut has been at Birmingham & offer'd ye Secret of making ye finest old China as cheap as your Pots. He says ye

[1] Besides the factory mentioned in this letter, we hear from the diary of Dr. Pococke that as early as 1750 a white ware with reliefs was made at the 'Lowris China house' with 'soapy-rock from Lizard Point.' A sauce-boat marked 'Bristoll' is referred to these works in the *Guide to English Pottery in the British Museum*, p. 109.

[2] Lauraguais (Comte de), Duc de Brancas, born 1733; died 1824.

materials are in England. That ye secret has cost £16,000—y^t He will sell it for £2000—He is a Man of Science, dislikes his own Country, was six months in ye Bastile for speaking against ye Government—loves every thing English'; but, adds Darwin, 'I suspect his Scientific Passion is stronger than perfect Sanity' (Miss Meteyard, *Life of Wedgwood*, vol. i. p. 436). Lauraguais, in 1766, proposed to take out a patent for making not only the coarser species of china, but 'the more beautiful ware of the Indies and the finest of Japan.' The specification was never enrolled, and nothing came of it. There exist, however, a few specimens of china marked with the letters B. L. (Brancas Lauraguais) in a flowing hand, which are attributed to the Count.[1] The paste, says Professor Church, is fine, hard, and of good colour. An analysis gives 58 per cent. of silica, 36 per cent. of alumina, and 6 per cent. of other bases. It will be observed that the percentage of alumina in this porcelain is exceptionally high.

We see, therefore, that before the year 1770, when Cookworthy removed to Bristol, true porcelain had been made in more than one place in England, but not with enough success to allow the new ware to compete with the soft pastes of Worcester and elsewhere. So in France, although the new paste was introduced at Sèvres in 1769, it was only in 1774, so Brongniart tells us, that the manufacture of hard porcelain was firmly established.

Champion seems to have been on friendly terms with Cookworthy, and in 1773 he bought from the latter the entire patent rights. In the two previous years much of the new porcelain had been made. It is claimed for it in advertisements that, unlike the

[1] See p. 306. At Strawberry Hill was 'Michael Angelo's Bacchus, made in the china of the Comte de Lauraguais, from the collection of the Comte de Caylus' (Walpole's *Works*, ii. 405 *seq.*).

English china generally, it will wear as well as the East Indian, and that the enamelled porcelain, though nearly as cheap as the English blue and white, 'comes very near, and in some pieces equals, the Dresden, which this work more particularly imitates.' This is from a local journal of November 1772, and we may add that not only the ware was imitated, but also the well-known marks of Dresden.[1]

Now, if we turn from these general considerations to examine the nature of the West of England ware, we find some difficulty in drawing a line between the early, partly experimental, porcelain made at Plymouth and the later, more successful, products of the Bristol kilns. Nor will the mark, the alchemist's sign for Jupiter[2] (PL. E. 83), first used on the Plymouth porcelain, help us much, for the same mark was certainly used to some extent after Cookworthy's migration to Bristol.

To Plymouth we must attribute the plain white ware with a glaze of dull hue, disfigured by dark lines where the glaze lies thick in the interstices. Cookworthy, we know, attempted to make his glaze from the Cornish stone without the addition of any other substances.[3] In other cases he followed the recipe given by the Père D'Entrecolles, and gave greater fusibility to the growan-stone by adding a small quantity of a frit made from a mixture of lime and fern ashes. Cookworthy even ventured to follow the Chinese plan, and applied the glaze to the raw

[1] By Champion, at least, at a later time. The cross swords have in some cases been subsequently obliterated (PL. E. 84). Mr. Owen thinks that this was in consequence of a quarrel with the custom-house authorities in 1775.

[2] And for tin also. The mark was adopted, no doubt, in honour of the 'premier' product of Cornwall. It would, however, be more in place on a ware with an opaque tin glaze, such as the soft paste of Chantilly.

[3] So at Sèvres during the greater part of the last century the glaze has consisted of pegmatite, a very similar material to the Cornish growan-stone. The inconveniences of such a glaze have been pointed out by Vogt and others.

1

2

PLATE XLVIII. 1—PLYMOUTH, WHITE GLAZED WARE

2—BRISTOL, COLOURED ENAMELS

or very slightly baked paste. The blue and white made by him, if we may judge from the little mug in the British Museum, with the arms of Plymouth and the date, March 14, 1768, was of very poor quality. The Oriental designs on his enamelled porcelain seem to have come to him by way of Chantilly. More successful was the plain white ware modelled in relief, in a way that often calls to mind the early work of Bow. A good example is the 'Tridacna' salt-cellar in the former Jermyn Street collection.

At least one French modeller and enameller was employed at Plymouth, and after the removal to Bristol we find the name of a German also. Henry Bone, a Truro man, who afterwards became famous as a miniature-painter in enamels, entered the works at Bristol as a lad, and passed there the six years of his apprenticeship. Bone, who later on wrote R.A. after his name, was the principal representative in England of the school of painters in enamel upon slabs of porcelain, that played so important a part at Sèvres at the beginning of the last century. At one time a modeller of some skill must have been employed. Perhaps this was the mysterious Soqui or Le Quoi.[1] Some little statuettes in the Schreiber collection at South Kensington, 'the Seasons,' as represented by boys and girls, are charmingly modelled. But we must not look for any brilliancy of colour in the enamels. The highly infusible nature of the paste, and what is even more important, of the glaze, added immensely to the difficulty of obtaining anything of the kind. If we compare the enamels on these

[1] Of another workman employed by Champion, one Anthony Amatt, Mr. Hugh Owen gives some particulars. At one time, attempting to cross the Channel and find employment in France, he was arrested—at the instigation, it is said, of Wedgwood—and confined for some time as a State prisoner. Amatt died in 1851 at the age of ninety-two. Wedgwood was very active in preventing the emigration of English potters, who, he declared, were lured from their country by French and German agents (Meteyard's *Wedgwood*, ii. p. 475).

statuettes with those on the Chelsea and Derby figures in the same collection, the difference is at once apparent. The two most important colours in the latter wares, the rose-pink and the turquoise, it was impossible to develop at the high temperature required to soften the refractory glaze of the hard porcelain. The greens, however, and the coral reds of the Bristol figures are more successful. In the specifications of 1775 there is mention of a glaze containing much kaolin mixed with some arsenic and tin oxide.[1] Such a glaze might allow of more brilliancy in the enamels, and it is to be noticed in this connection that some statuettes long classed as Chelsea have only comparatively lately been recognised as consisting of the Bristol paste.

Perhaps what we may regard as the most remarkable, certainly the most original, work produced by Champion are the little circular or oval plaques of white biscuit. These medallions vary from four to nine inches in diameter. The central field contains a coat-of-arms modelled in low relief, or more rarely a portrait bust, and among these last we find heads of Benjamin Franklin and of George Washington, pointing to the political sympathies of Champion. A wreath of flowers in full relief surrounds the field—the sharpness and the finish in the modelling of these minute leaves and blossoms has never been approached in this or other material. In the manner of treatment, these wreaths are thoroughly English, and we are reminded of the flowers carved in wood by Grinling Gibbons (PL. XLIX.).

Champion made also a commoner ware, which he called 'cottage china.' This was summarily decorated in colours without any gilding. The glaze on this ware was applied over the raw paste, on the Chinese plan that had already been tried by Cookworthy.

Champion was an active politician and a vehement

[1] There are also in existence some examples of undoubted Bristol hard-paste porcelain, covered with a soft lead glaze.

1

2

PLATE XLIX. 1—BRISTOL, WHITE BISCUIT

2—BRISTOL, WHITE GLAZED WARE

supporter of the American colonists in their dispute with the mother country. The visit of Edmund Burke to Bristol in 1774, and his election as member for the city, may be regarded as the climax of his career. Then it was that the famous tea-set was presented by Champion and his wife to Mrs. Burke, as a *pignus amicitiæ*. Still more elaborately decorated was the other service that Burke gave to Mrs. Smith, the wife of the friend of Champion, at whose house he stayed on this occasion. The shapes and the decoration of this service were founded on Dresden models, and the wreaths of laurels that formed an essential part of the design afforded a good field for the display of the green colour in which Champion excelled.

But Champion's troubles were now to begin. In 1775 his petition to Parliament for a renewal of his patent was vigorously opposed by Wedgwood. Champion must have been put to great expense—he exhibited before a committee of the House some selected specimens of his porcelain. He, however, won his case, though the monopoly in the employment of the Cornish clays was restricted to their use as a material for *transparent* wares, a point of some importance to the Staffordshire potter. But meantime the American War was ruining his business—for Champion was in the first place a merchant trading with the West Indies and America—and it is probable that little porcelain was made by him after 1777. The next year Wedgwood, his inveterate opponent, in a letter to Bentley, says of him, 'Poor Champion, you may have heard, is quite demolished. . . . I suppose we might buy some Growan-stone and Growan-clay now upon easy terms.' In 1781, after a long negotiation, he disposed of his patent to some Staffordshire potters, and shortly after this he emigrated to America. Champion was only forty-eight years old when, in 1791, he died at his new home in South Carolina.

As Professor Church has pointed out, the paste of the Bristol porcelain is of exceptional hardness. It is, in fact, in some specimens as hard as quartz, that is, say, the hardness is equal to 7 in the scale of the mineralogist: the hardness of Oriental porcelain, *it* will be remembered, varies between 6 and 6·5; the glaze on the Bristol china is about 6 on the same scale. The fractured surface may be described as sub-conchoidal and somewhat flaky, with a greasy to vitreous lustre. On the Plymouth and Bristol wares, especially on the larger vases, may often be seen, when viewed in a favourable light, certain spiral ridges, the result of the unequal pressure of the 'thrower's' hand. Similar ridges may indeed be observed at times on other hard paste wares, both Chinese and European, and this 'wreathing' or *vissage*, as Brongniart long ago pointed out, is the result of the *too great plasticity* of the clay,—a clay may, in fact, be too "fat" to work well on the wheel. This plasticity, however, would be of advantage to the modeller, especially when working on a very small scale; indeed the delicate floral reliefs in biscuit, on the plaques we have already spoken of, could only have been made from a fine and unctuous clay. How refractory to heat this same paste is, was well proved by the fire at the Alexandra Palace in 1873, when so many fine specimens of English porcelain were destroyed. A biscuit plaque or medallion of Bristol porcelain passed uninjured (by heat at least) through this fire, while the soft porcelain alongside of it was completely melted.

The paste, then, of this Bristol ware is remarkable both for its resistance to heat and for its great plasticity. These are both qualities that point to an excess of kaolin in its composition, and this excess is confirmed by analysis. Professor Church found in a specimen of Bristol china 63 per cent. of silica, 33 per cent. of alumina, and only 4 per cent. of lime and alkalis. The percentage of alumina is about the same as that in the

hard pastes of Meissen and of Sèvres, but the small amount of the other bases is quite exceptional. A paste of this composition would contain about 65 per cent. of kaolin.

And here, before ending, we may for a moment return to what is, perhaps, the crucial point of all in the composition of true porcelain—for it is one that has a radical influence both on the technical and on the artistic side. The first question we must ask when inquiring into the composition of any specimen of porcelain is this—What proportion of kaolin enters into its composition? Or if it is a matter of the primary constituents of the paste—What is the percentage of alumina that it contains? Now we may consider the composition of kaolin, after removing the water, to be silica 54 per cent. and alumina 46 per cent., and the nearer the composition of our porcelain approaches to these figures, the greater will be its hardness, its resistance to fire, and the greater also the plasticity of the paste—the greater in fact will be what we have called the 'severity' of the type.[1]

Now for the other component of porcelain, the petuntse or china-stone. The composition of this material differs widely, but let us take the mean of some analyses of Cornish stone. On this basis we may take silica 72 per cent., alumina 18 per cent., other bases 10 per cent., as our type. The result of adding such a material to our kaolin will be to increase the percentage of silica and of the 'other bases,' and to diminish the percentage of alumina in the resultant mixture. Our paste now becomes less plastic and the resultant porcelain more readily softened by heat, but at the same time less hard.

So far every one would be agreed. But the question now arises, are we to attribute this increased fusibility

[1] The porcelain made by Count Lauraguais, to judge by the analysis given above, must have contained even more kaolin than the Bristol ware.

to the higher percentage of the other bases (these are, in the case of European porcelain, practically lime and potash), or in a measure at least to the increased amount of silica in the paste? We have here three variants, the silica, the alumina, and the 'other bases,' and the case is therefore somewhat complicated. I think, however, that the careful examination of any table giving the composition of various types of porcelain would show that up to a certain point an increase in the amount of silica promotes a lower softening-point in the paste, and this in cases where there is no important change in the proportion of the 'other bases.' I will illustrate this by comparing the composition of the severe hard paste of Sèvres on the one hand with an analysis of a mild type of Chinese porcelain on the other:—

	Sèvres hard paste (1843).	Chinese porcelain.
Silica,	58 per cent.	70·5 per cent.
Alumina,	34·5 ,,	21 ,,
Other bases,	7·5 ,,	7·5 ,,

No doubt, if the percentage of silica is further increased, say beyond 78 or 80 per cent., we get again a practically infusible body. But with a paste *of this* composition the resultant ware is no longer translucent —we pass from the region of porcelain to a true stoneware.

Thus we see that in composition a mild porcelain forms a middle term between stoneware on the one hand, and a severe porcelain on the other. In other words, stoneware cannot be regarded as an extreme type of a refractory porcelain.

CHAPTER XXIII

CONTEMPORARY EUROPEAN PORCELAIN

WE have seen that in England the new aims and the new schemes of decoration that have so profoundly affected most of our industrial arts have so far had little influence upon the porcelain manufactured by the large Staffordshire firms. Here and there, as by Mr. Bernard Moore of Longton, an attempt has been made to take up the problem of the *flambé* glazes, which has so fascinated the French potters. Mr. Moore has succeeded in making some *sang de bœuf* vases which in outline and colour closely follow the Chinese models. Otherwise the many skilful artists—more than one of them, I think, are Frenchmen—employed by our porcelain manufacturers have been content to follow in the main the old traditions, nor has any occasional attempt that has been made to imitate, not the latest but rather the work of the last generation at Sèvres, produced any very satisfactory results. It cannot be denied that both in the design and in the decoration our English porcelain has, for some time, remained outside the art movement of the day.

Indeed at the present time, and for the last twenty years, whatever of interest we can find in the contemporary production of porcelain, centres in two factories—Sèvres and Copenhagen. To the latter works we must now return for a moment.

The royal factory, of which we have already spoken, was closed after the disastrous war of 1864. But during the eighties a number of able men, both artists and men of science, occupied themselves with the new porcelain problems, and in 1888 a fresh company was formed, the 'Alumina.' These men—I will only mention Philip Schou—were much impressed by the technical and artistic merits of the porcelain lately sent from Japan, highly finished ware decorated under the glaze with great delicacy and generally in subdued colours. They were influenced above all by the work of the Japanese potter Miyagawa Kozan, called Makudzo. The Danish porcelain produced during the nineties is distinguished as a whole by its cool, subdued colours, with a prevalence of various pearly tints approaching more or less to celadon. In the carefully executed but boldly designed decoration, we see the influence both of the Japanese naturalists and of the impressionist painters of the day. The snow scenes, the rocks, the dancing waves and the sea birds have been suggested by the stormy coasts of the Baltic and the North Sea. It is from the primitive rocks of this coast that the pure felspar, which plays so large a part both in the paste and in the glaze, has been obtained.

It was at Copenhagen probably that the crystalline glazes, derived from salts of bismuth, were first made —this was by Engelhart, about 1884.

At a rival Danish factory—that of Bing and Gröndhal—many clever artists, some of them ladies, have modelled in porcelain figures of animals either in the round or in relief on the sides of vases: we find dogs, cats, and even seals (but not the human figure). Indeed in this kind of work something in the nature of a school has grown up.

Fresh life has lately been given to the old works at Rörstrand, near Stockholm. Here in the underglaze decoration the same cool, pearly colours that we find in

favour at Copenhagen are predominant. Great care has lately been devoted to the modelling of flowers.

At the Rozenburg works, near the Hague, a new paste has been invented by Juriann Kok. The extraordinary tenacity and plasticity of this material allows of its being worked into the strangest forms—some of the vases, with long, thin, angular handles, suggest work in hammered metal. By means of a fantastic decoration—quaint, elongated figures, and forms of marine life, such as the long-clawed Japanese lobster—a certain original *cachet* has been given to this ware.

The Charlottenburg works, near Berlin, have lately felt the influence both of Copenhagen and of the new school of Sèvres. Everything has been lately tried—sculpturesque developments in various directions, and again the decoration of large wall surfaces with porcelain plaques enamelled so as to resemble oil pictures; but as in former days, so now, the technical and scientific side of this industry tends to prevail over the artistic.

M. Edouard Garnier, the late director of the Museum at Sèvres, in a report upon the porcelain exhibited at Paris in 1900, has ably summed up his impressions of the wares now being manufactured in various parts of Europe, and I cannot do better than follow so excellent an authority in his 'appreciations' of this modern porcelain.

M. Garnier dates the latest renaissance of European porcelain from the new ground struck out in the seventies, not only at Sèvres, by Deck and others, but also in many private kilns, as by Bracquemont in Paris and by Haviland in the Limoges district. What specially distinguishes the latest work is the advantage taken of the new colours that can now be employed with the *grand feu* so as to participate in the brilliancy and purity of the glaze. A delicacy of tone, a transparency and a

harmony are now obtainable which contrasts favourably with the dry and dull colours of the old methods of painting. On the other hand, says M. Garnier, the progress in chemical knowledge has been so rapid that the new processes and colours have tended to become the masters of the artists who employ them, instead of remaining subtle tools in their hands.

This tendency is especially noticeable at Copenhagen, and the crystalline glazes, derived from bismuth, that have spread thence all over Europe, are a case in point. So again, starting from the *flambé* glaze of the Chinese, the modern potter is inclined to run riot with the numerous new materials at his command.

At Sèvres—I follow M. Garnier's report—advantage has been taken of the new porcelain paste (that of the 'milder' Chinese type) to revive in the biscuit ware the reproductions of works of sculpture for which the factory was so renowned in the days of the *pâte tendre*. The pureness and softness of the material and the skill of the manipulation are noteworthy apart from the artistic merit of the work. (Let me here call attention to the fifteen figures by Léonard, '*Le Jeu de l'Écharpe*,' in the new biscuit ware.) This revolution in the style of decoration has now spread to other parts of France, and has affected the great commercial factories of the south-west, especially the ware made by the firm of Haviland.

English porcelain was but poorly represented at Paris in 1900; besides, as we have said, it is in other branches of the potter's art that we have to look for a reflection of our new native school of decoration. It is indeed a curious fact that many of the designs that we associate with Morris and his followers may be found rather upon the wares of Copenhagen and Sèvres than on our English porcelain. I cannot, however, pass over some criticisms of M. Garnier, in which he falls foul of certain tendencies in the fashioning and decoration of

the wares turned out by our big Staffordshire firms. As to how far these criticisms are merited, any one may form an opinion for himself by a glance at the shop-windows of London. 'The English paste,' says M. Garnier, 'is of a special nature which lends itself admirably both to the shaping and to the decoration; the execution is *hors ligne*, but this is accompanied by an overloading of detail, a heaviness in the decoration, and a want of harmony and proportion between the different parts of the piece that cause one to regret that so much talent and care have been employed only to arrive at so very unsatisfactory a result. Besides this, we notice in the English *céramiste* a want of sincerity, with the result that at first sight you cannot tell what manner of substance you are looking at, whether it is porcelain or dirty ivory, or again a gilt ceramic ware rather than a bronze with a poor patina.' A curious point in connection with this criticism is that, if I am not mistaken, a good deal of the work thus severely dealt with has been designed, if not executed, by French artists. It is made, however, to satisfy the demand of our great unleavened middle-class.

Turning to the porcelain from the royal works at Charlottenburg, M. Garnier finds fault with the exuberance and overloading of the sculptures and reliefs. But certain large architectural pieces and some frames in rococo style, in pure white ware, excite his admiration, for the beauty of the paste, the purity and the limpidity of the glaze, and the marvellous way in which the technical difficulties of the execution have been surmounted; so, too, for the brilliancy of the colouring and the way in which the enamel colours combine with and form one material with the glaze, as if one were looking at a soft-paste ware. Above all, in some pieces of the 'new porcelain'—for the milder paste is now in use at Berlin to some extent—the colours of the *grand feu* and the purity of the enamel are remarkable.

At Meissen, says M. Garnier, they are still working on the old lines: reproductions of the models made a century and a half ago by Kändler are as much as ever in demand. Certain ambitious attempts in a newer style have resulted in errors that will add nothing to the fame of the works. (Dr. Heintze, the present director, has especially devoted himself to the development of the new colours under the glaze. But the porcelain now produced, apart from the copies of the old wares, follows in the lines either of the Copenhagen porcelain, or again, at times, of the coloured pastes of Sèvres.)

Certain districts of Northern Bohemia have become of late centres of ceramic industry. The predominant bad taste and over-decoration of the porcelain made there (I still follow M. Garnier) is above all exemplified in certain coloured statuettes, '*articles de bazar* which corrupt the taste of the public and whose sale ought to be prohibited.' An exception must be made for the produce of the Pirkenhausen works, near Carlsbad. The marvellous plasticity of the paste, made from the rich deposits of kaolin near Zottlitz, has been taken full advantage of, not only on the wheel and in the mould; it has allowed also of the free modelling of the superadded reliefs by the artist's hand.

The factory at Herend, in Hungary, founded in 1839, no longer turns out the ware of Oriental style, so much admired by Brongniart, by Humboldt, and by Thiers. Herr Fischer, the director and principal artist, has lately made good imitations of the coloured pastes of Sèvres, with leaves and branches in relief.

At St. Petersburg the imitation of the over-decorated hard paste of Sèvres has been abandoned in favour of the soft and harmonious colours and the pure and limpid glazes of Copenhagen. The vases with designs of white paste, in relief upon coloured grounds, in a manner now little in favour at Sèvres, are less happy. At the Kousnetzoff factory, at Moscow, a polychrome

decoration, in imitation of Byzantine embroideries and enamels, has been applied to tea-services of somewhat geometrical forms, while the French porcelain of the time of Louis Philippe continues to be imitated.

At Copenhagen, says M. Garnier, the new porcelain, which since its introduction in 1889 has been praised and exalted in all the art journals of Europe, is still produced on the same lines. Not to speak of the new and strange results already obtained from coloured and enamelled glazes, greater experience in the use of the extended palette at the command of the decorator has produced results in which we find an admirable delicacy and restraint. It was, however, from Sèvres that the impulse first came. We can trace it in the work turned out of late years by Messrs. Bing and Gröndhal. But in place of the amiable and gracious art of France we find here a severe, sometimes we might almost say a rude, style, but one not without character and elevation.

At Rörstrand, near Stockholm (see above, p. 388), the work still continues on the lines of the older porcelain of Copenhagen (*i.e.* in the style in favour ten or twelve years ago), with the same simplicity and charm in the decoration and delicacy in the modelled relief. Perhaps we may attribute to a special quality in the felspar of the north the pure and refined quality so noticeable in the pastes and glazes.

At Rozenburg, continues M. Garnier, a factory already well known for its faience, a very original kind of porcelain has lately been made. The composition of the paste, though based on kaolin, presents some peculiarities. The ware is of an incredible thinness and lightness, and the strange decoration, based in part upon Japanese motives, is not without charm and originality. The shapes of the vases, however, go too far in the direction of eccentricity. (Cf. p. 389.)

As at Meissen, so in the porcelain now made in

Italy there is a total absence of all personality and novelty, and the old, well-beaten road is still followed. At Florence this is carried so far that the old moulds acquired so many years ago from the Capo di Monte works are still in use. 'Ce sont des choses,' says M. Garnier, 'qui prêtent trop au "truquage" et qu'il faut laisser aux fabricants de vieuxneuf.'

EXPLANATION OF THE MARKS ON THE FOLLOWING PLATES (A. TO E.)

CHINESE MARKS

1. *Ta Ming Yung-lo*, 1402-1424. Mark of Yung-lo, engraved under the glaze in early seal or 'tadpole' characters.
2. *Ta Ming Hsuan-te nien chi*, 1425-1435.
3. *Cheng-hua nien chi*, 1464-1487.
4. *Ta Ming Cheng-te nien chi*, 1505-1521.
5. *Ta Ming Kia-Tsing nien chi*, 1521-1566.
6. *Ta Ming Lung-king nien chi*, 1566-1572.
7. *Ta Ming Wan-li nien chi*, 1572-1619.
8. *Ta Tsing Kang-he nien chi*, 1661-1722.
9. *Ta Tsing Yung-cheng nien chi*, 1722-1735.
10. *Do. do.*, in seal characters.
11. *Ta Tsing Kien-lung nien chi*, 1735-1795. Seal characters.
12. *Ta Tsing Kia-king nien chi*, 1795-1820. Seal characters.
13. *Ta Tsing Tao-kwang nien chi*, 1820-1850. Seal characters.
14. *Ta Tsing Tung-chi nien chi*, 1861-1874. Seal characters.
15. *Wan chang shan tu.* 'Scholarship lofty as the Hills and the Great Bear.'
16. *Ki yuh pao ting chi chin.* 'A gem among precious vessels of rare jade.'
17. *Shun-ti tang chi.* 'Made at the Shun-ti (cultivation of virtue) Hall.'
18. *Tsae chuan chi lo.* 'Enjoying themselves in the waters.'

19. Conventionalised seal character for *Sho*—longevity.
19A. *Fu*, a bat, a synonym of *fu*—happiness.

JAPANESE MARKS

20. *Kai-raku yen sei.* 'Made at the Kai-raku house.'
21. *Ken-zan.* The maker's name.
22. *Yei-raku.* The seal granted to Zengoro. Seal character.
23. *Fuku.* Happiness. (Chinese, *Fu.*) Seal character.
24. *Hopin chi liu.* (Japanese, *Ka hin shi riu*). *See* p. 199 note.

GERMAN MARKS

25. Meissen. The rod of Æsculapius.
26. Meissen. Monogram of Augustus II., King of Poland.
27. Meissen. Crossed swords and letter (for painter or director).
28. Vienna. The shield of Austria.
29. Höchst. The wheel of the Mainz archbishops, surmounted by a cross.
30. Fürstenberg. The initial letter of the town.
31. Berlin. The sceptre carried by the Brandenburg elector as grand chamberlain of the empire.
32. Frankenthal. Crowned lion of the palatinate; the monogram J. A. H., probably for Joseph Adam Hannong.
33. Frankenthal. The monogram of Karl Theodor, surmounted by a crown.
34. Nymphenburg. Quarter of shield with arms of Bavaria.
35. Ludwigsburg. Arms of Würtemberg. Three stag horns.

36. Ludwigsburg. Monogram of Duke Charles, surmounted by ducal crown.
37. Fulda. Double F, for 'Fürstliche Fuldaische.'
38. Fulda. Cross from the arms of the prince bishop.
39. Herend. Below—the arms of Hungary.

DUTCH, DANISH, SWEDISH, AND RUSSIAN MARKS

40. Weesp. Crossed swords and three dots. Similar mark used elsewhere.
41. Oude Loosdrecht. The 'M:' stands for 'manufactuur.'
42. The Hague. The arms of the town.
43. Copenhagen. The wavy lines represent the 'three Belts.'
44. Sweden; Marieberg. The three crowns from the arms of Sweden.
45. Moscow. St. George surrounded by band, with inscription. Above, the Russian eagle.
46. St. Petersburg. Monogram of Catherine II. (Ekaterina).

BELGIAN AND SWISS MARKS

47. Tournay. A tower, the arms of the town.
48. Tournay. Crossed swords and four crosses.
49. Zurich. German Z and two dots.
50. Nyon. A fish.

FRENCH MARKS

51. Saint-Cloud. The sun, emblem of Louis XIV.
52. Saint-Cloud. Initials of town and of director of factory—Trou.
53. Chantilly. A hunter's horn.
54. Mennecy. D. V., for the Duc de Villeroy.

55. Vincennes. The initials of Louis XV. crossed, without year-mark.
56. Vincennes. Initials of Louis XV.; year-mark for 1753, and decorator's mark (H.).
57. Sèvres. Time of First Empire. The 7 stands for 1807.
58. Sèvres. Double C, enclosing X, for Charles X. 24 for 1824.
59. Paris; Courtille. Two crossed arrows.
60. Orleans (?). Label with three points from ducal arms.
61. Paris; Clignancourt. The windmill of Montmartre.
62. Paris; Rue Thiroux. A, for Marie Antoinette, under a crown.

ITALIAN AND SPANISH MARKS

63. Venice. Incised. Probably of Vezzi family.
64. Venice. Anchor of Cozzi factory.
65. Le Nove. Star of eight points.
66. Vinovo. Cross of Savoy above letter V, for the town.
67. Madrid, Buen Retiro. The *fleur-de-lis* from the royal arms.

ENGLISH MARKS

68. Chelsea. Triangle, incised.
69. Chelsea. Anchor, in relief.
70. Chelsea. Anchor.
71. Bow. Anchor and dagger.
72. Bow. Monogram of Thomas Frye. (?) Perhaps sometimes a Worcester mark.
73. Chelsea-Derby. Anchor and letter D.
74. Derby. Jewelled crown, crossed batons, with dots and letter D.

75. Derby. Jewelled crown and letter D.
76. Worcester. Imitation of Chinese characters.
77. Worcester. Crescent.
78. Worcester. Imitation Chinese seal character.
79. Worcester. Crossed swords and number.
80. Swansea. Trident.
81. Longton Hall. Crossed L's and dots.
82. Plymouth. The symbol for tin.
83. Bristol. Symbol for tin, with a cross.
84. Bristol. Crossed swords, erased.

MARKS ON PORCELAIN

PLATE A.—CHINESE MARKS

Fig. 1.

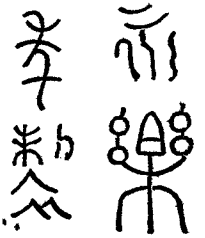


Fig. 2.

大明宣
德年製

Fig. 3.

成化
年製

Fig. 4.

大明正
德年製

Fig. 5.

大明嘉
靖年製

Fig. 6.

大明隆
慶年製

Fig. 7.

大明萬
曆年製

Fig. 8.

大清康
熙年製

Fig. 9.

大清雍
正年製

Fig. 10.

Fig. 11.

Fig. 12.

MARKS ON PORCELAIN

PLATE B.—CHINESE MARKS—*continued.*

Fig. 13.

Fig. 19.

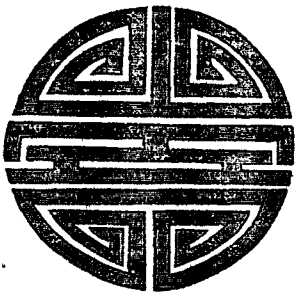


Fig. 14.

Fig. 15.

文章
山斗

Fig. 16.

奇玉
異之
珍宝

Fig. 19A.

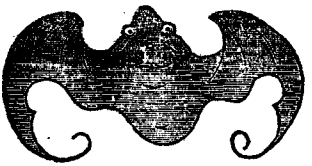


Fig. 17.

慎德
堂製

Fig. 18.

在川
知樂

JAPANESE MARKS

Fig. 20.

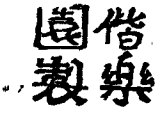


Fig. 21.

Fig. 22.

Fig. 23.

Fig. 24.

PORCELAIN

PLATE C.—GERMAN MARKS

Fig. 25.

Fig. 26.

Fig. 27.

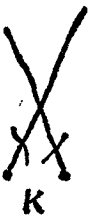


Fig. 28.

Fig. 29.

Fig. 30.

Fig. 31.

Fig. 32.

Fig. 33.

Fig. 34.

Fig. 35.

Fig. 36.

Fig. 37.

Fig. 38.

Fig. 39.

DUTCH, DANISH, SWEDISH, AND RUSSIAN MARKS

Fig. 40.

Fig. 41.

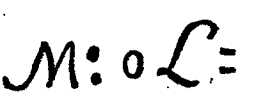


Fig. 42.

Fig. 43.

Fig. 44.

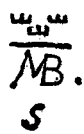


Fig. 45.

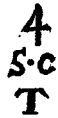
Fig. 46.

MARKS ON PORCELAIN

PLATE D.—BELGIAN AND SWISS MARKS

Fig. 47.	Fig. 48.	Fig. 49.	Fig. 50.

FRENCH MARKS

Fig. 51.	Fig. 52.	Fig. 53.	Fig. 54.
			
Fig. 55.	**Fig. 56.**	**Fig. 57.**	**Fig. 58.**
Fig. 59.	**Fig. 60.**	**Fig. 61.**	**Fig. 62.**

ITALIAN AND SPANISH MARKS

Fig. 63.	Fig. 64.

Fig. 65.	Fig. 66.	Fig. 67.

PORCELAIN

PLATE E.—ENGLISH MARKS

Fig. 68.

Fig. 69.

Fig. 70.

Fig. 71.

Fig. 72.

Fig. 73.

Fig. 74.

Fig. 75.

Fig. 76.

Fig. 77.

Fig, 78.

Fig. 79.

Fig. 80.

SWANSEA

Fig. 81.

Fig. 82.

Fig. 83.

Fig. 84.

INDEX

PAGE

'AGING' of clay, ... 19-20
Alcora, attempts to make porcelain at, ... 324
'Alumina' Company at Copenhagen, ... 388
Alumina, proportion of, in hard pastes, ... 7, 385
Amiot, Père, sends china from Pekin, . . 52 *note*, 298 *note*
Amoy, export of porcelain from, 127, 142
—— stoneware made near, . . 166
Annam, porcelain made in, . . 175
Arab trade with China, . . . 209
—— traders, Chinese porcelain distributed by, ... 210 *seq.*
—— writers on Chinese porcelain, ... 60, 209-217
Arabian Nights, Martabani ware mentioned, ... 216
Arabic inscriptions on Chinese porcelain, ... 94
Aranjuez, porcelain *gabineto* at, . 323
Arita, porcelain district of Japan, 181-182, 193
Armorial china, . . 164, 253, 369
—— —— decorated at Canton, 114, 164
Arras, porcelain made at, . . 289
Arrow-holders in Chinese porcelain, ... 139
Assyrian and Babylonian glazes, . 33
Augustus the Strong, collects Chinese porcelain, ... 159
—— —— his collection of porcelain, ... 227
—— —— porcelain in exchange for dragoons, ... 228
—— —— his taste as a collector, ... 244-245

PAGE

Augustus the Strong, his ambition to imitate Oriental porcelain, . 245

BACHELIER, art inspector at Sèvres, 291
—— his memoir on the Sèvres works, ... 290
—— quoted, . 294, 295, 296, 301
Bacon, John, modeller at Bow, . 348
Barbin at Mennecy, ... 287
Barbotine, or slip, . . 19, 312
Batavian porcelain, ... 102
—— —— term how used, . . 223
Baxter, family of enamellers, 362-363, 369
Belleek porcelain, ... 374
Bemrose, Mr., on Derby porcelain, 350
Berlin, Meissen staff removed to, . 262
—— Wegeli's earlier porcelain, . 262
—— contemporary porcelain, 389, 391
—— porcelain and Frederick the Great, ... 262
—— —— methods of sale, . . 263
—— —— marks on, ... 264
Bertin, the French minister, his Chinese porcelain, 52 *note*, 298 *note*
Billingsley, W., . 366, 367-368, 371
Bing and Gröndhal factory at Copenhagen, . . . 388, 393
Binns, Mr., documents relating to English porcelain, . . 357, 358
Biscuit oven, ... 27
Bismuth used in glaze, . 374, 388, 390
Black glazes on Chinese porcelain, 1
Bloor, Robert, at Derby, . .
'Blue and white,' origin
Chinese, ...
—— —— of Ming period,
—— —— how distinguish
—— —— of Wan-li per

PORCELAIN

PAGE

'Blue and white,' Chinese name for, ... 155
—— —— Chinese porcelain, 155-160
—— —— earliest Chinese, . . 156
—— —— origin of Chinese, . 156
—— —— Chinese porcelain, with hatched lines, ... 160
Blue decoration *sous couverte*, . 43
—— enamel, difficulty of successful application, . . . 99 *note*
—— —— used with *famille verte*, 101
Boccaro ware, made in China, . 166
—— —— imitated by Böttger, . 247
Bohemia, Northern, contemporary porcelain, ... 392
Bondy, Rue de, Paris, factory at, . 313
Bone, Henry, employed at Bristol, 381
—— —— paints on slabs of porcelain, ... 381
Bone-ash in English porcelain, 329, 330, 338, 343, 372-373
Borneo, Chinese porcelain found in, ... 156, 209-210
—— Chinese trade with, . . 209
Böttger, his life, . . . 246-248
—— as an alchemist, . . 246, 248
—— his porcelain at the Leipsic Fair, ... 247, 249
—— compared with other great potters, ... 250
—— assistance from Dutch potters, ... 250 *note*
—— the number of his experiments with enamels and glazes, . . 252
Böttger-ware, polished, . . 248
—— with enamel colours, . . 249
—— with brown glaze, . . 249
Boucher, his models used at Sèvres, 296
Bourbon, Duc de, and Chantilly, . 286
Bow, fragments of porcelain found at, ... 343
—— nature of porcelain there made, ... 344-345
—— Craft's punch-bowl, . 345-346
—— marks on porcelain, . . 348
—— factory, origin of, . . 342
—— bought by Duesbury, . 352
—— ain, . . . 342-348
—— omas, and Rocking-
—— n, ... 372

PAGE

Brancas Lauraguais, experiments with kaolin, . 305, 313, 378, 379
Brinkley, Captain, on Japanese ceramics, ... 194
—— —— quoted, ... 196
Bristol porcelain, . . . 379-386
—— —— marks on, . . . 380
—— —— colours on statuettes, 381-382
—— —— medallions with floral wreaths, ... 382
—— —— 'cottage china,' . . 382
—— —— glaze on, . . . 382
—— —— hardness of paste, . 384
—— —— great infusibility, . . 384
—— —— composition, . . 384
—— —— plasticity of clay, . . 384
British Museum, Oriental porcelain in, ... 53
Brongniart, director at Sèvres, . 303
—— sells stock of undecorated Sèvres soft paste, . . . 304
—— introduces severe type of paste, ... 307
—— his influence at Sèvres, 308-309
Bronzes, early Chinese, influence of shapes on porcelain, . . . 57
Brown glazes of Chinese, . 74 *note*
Brühl, Count, armorial china for, . 253
Brunswick, Duke of, and Fürstenberg porcelain, ... 265
Buen Retiro, Madrid, porcelain factory at, . . . 322-324
Buonicelli, director at Buen Retiro, 323
Burke at Bristol, ... 383
Burleigh House, early Chinese porcelain formerly at, . 85, 222
Bushell, Dr., work on Chinese porcelain, . . 15, 54, 91, 153
—— translations from Chinese works on Korea, . . . 171
—— manuscript, . . . 61
—— —— quoted, . . 86, 138

Cailloux in French porcelain, . 16
Canton, early Arab trade, . . 209
—— enamellers on porcelain, 108, 114, 164, *165*
Capo di Monte, Naples, porcelain factory at, . . . 318-320

INDEX

PAGE

Capo di Monte factory removed to Portici, ... 320
Carlos, Don, at Naples, makes porcelain, ... 319
—— —— now Charles III. of Spain, carries his workmen to Buen Retiro, ... 319
Cassettes. *See* Seggars.
Casting, process described, . 25, 354
—— used for Derby statuettes, . 354
Catherine II., her Sèvres dinner-service, ... 298
Caughley porcelain, ... 365
Celadon glazes, ... 42
—— word used in restricted sense, ... 64
—— of Sung dynasty, 63-65, 132, 144
—— origin of term, . . 64 *note*
—— early examples in European collections, ... 71
—— later Chinese ware, . . 145
—— made in Siam, . 173, 212 *note*
—— Japanese, . . 192, 195, 197
—— old pieces in Japan, . 178, 201
—— (martabani) in Persia, . . 215
—— earliest specimen at Oxford, 218
Censors, influence of, on Chinese arts, 74
Ch'ai yao, early Chinese ware, . 62
Chambrelans or chamberers, term explained, ... 303
Champion, R., 375, 377, 379, 382-383
Chang, the elder and younger brothers, ... 65
Cha-no-yu, Japanese tea ceremony, 178
Chantilly, porcelain made at, 285-287
—— sprig pattern, . . . 286
—— marks on porcelain, . . 287
Chao Ju-kua, his report on early Chinese trade, ... 210
Chardin on porcelain in Persia, . 215
Charlottenburg factory, . 389, 391
Chelsea-Derby porcelain, 341, 352-355
—— —— marks on, ... 352
—— —— new forms introduced, 352-353
—— —— statuettes made by 'casting,' 354
Chelsea factory, site of, . . 335
—— —— end of, . . . 341
—— porcelain, . . . 331-342

PAGE

Chelsea porcelain, an early ware, . 332
—— —— marks on earliest pieces, ... 332
—— —— Japanese wares imitated, 336
—— —— sales of, . . 337, 341
—— —— claret colour on, . 338, 340
—— —— use of gold on, . . 338
—— —— rococo forms, . . 339
—— —— turquoise on, . . 339
—— —— statuettes, . . . 340
—— —— models of birds and fruit, ... 340
—— —— marks on, . . . 342
Cheng-hua (1464-87), use of date-mark, ... 82
—— enamelled ware, . . . 86
—— porcelain of, . . . 93
Cheng-tai enamels on copper, 88, 93
Cheng-te (1505-21), porcelain of, . 94
Cheng-tung (1435-49), double date-mark, ... 93
Cheyne Row called China Row, . 333
'Chicken cups' of Cheng-hua, . 93
Chicoineau family, 240, 282, 284, 288
Chimie, in French soft pastes, . 280
China collecting, ridicule attached to, ... 61, 243
—— origin of English term, . 222
—— clay. *See* Kaolin.
—— stone (*see also* Petuntse), 9, 10
—— —— preparation of, . . 16
Chinese characters, varieties of, 117-118
—— porcelain exported to different countries, ... 50
—— —— influence of old traditions, ... 51
—— —— mistakes in early classification, ... 52
—— —— late origin compared to other arts, ... 56
—— —— survival of old types, . 58
—— —— classification of, . 58, 141
—— —— old native accounts of, 60
—— —— composition of early wares, 69
—— —— plain white ware, . 141-144
—— —— unglazed ware, . . 144
—— stonewares, . . . 165-167
—— trade with the West, . 209 *seq.*
Ching (blue), Julien's wrong use of word, ... 64 *note*

PAGE

Ching-tsu, Chinese term for celadon, 64
Chini, Persian word for china or porcelain, . . 49 *note*, 222
Christian subjects on Chinese and Japanese porcelain, . . 133, 182
Chromium, as a source of green, 304, 309
Chün yao, early Chinese ware, 65, 152
—— —— numbers engraved on, 66
Church Gresley porcelain, . . 371
Church, Prof., on composition of porcelain, 5, 69, 241, 338, 343, 370, 384
Ciron, Ciquaire, at Chantilly, . 285
'*Clair-de-lune*' glaze (yueh-pai), 105, 148
Clignancourt, Paris, factory at, . 313
Cloisonné enamels on Japanese porcelain, ... 203
Coalport or Coalbrookdale porcelain, ... 366
Cobalt blue, sources of that used by Chinese, . . 40, 75 *note*, 92
—— —— how prepared by Chinese, 130
—— —— grounds of Chinese, . 148
Coloured pastes, . . . 40, 311
Colours used in decoration of porcelain (*see also* Enamels), . . 39
—— resistance to fire, . . . 41
Condé, house of, and Chantilly, 285-287
Constantin, painter on porcelain, . 271
Contemporary porcelain, . 387-394
—— —— use of new colours and glazes, ... 389-390
Cookworthy, William, . . 375-380
—— —— search for china-clay, 376-377
Copenhagen, porcelain made at, . 274
—— contemporary work, . 388, 393
—— Japanese influence, . . 388
Copper-red under glaze, . 80, 130
—— —— examples in British Museum, ... 81
—— —— of Hsuan-te, . . 92
Copper-red glazes on Chinese porcelain, ... 150-154
Coral-red grounds on Chinese porcelain, ... 115
Cornflower or *barbeau* on porcelain, ... 313, 355
Cornwall, search for materials for porcelain, . . 359, 376-378
Cottage china made at Bristol, . 382

PAGE

Courtille, La, Paris, factory at, . 313
Couverte, French term for glaze, . 31
Cozzi, makes porcelain at Venice, 317
Crackle ware, old Chinese (Ko yao), 65
—— —— Chinese, varieties of, . 145
—— —— glazes of, . . . 145
—— —— equivalent to Ko yao, . 145
—— —— Korean, . . . 171
Craft, Thomas, his punch-bowl, 345-346
'Crazing' of glazes, . . . 32
'Crow-claws,' term explained, . 29
—— marks of, on Japanese porcelain, ... 191
'Crusader's Cup' at Dresden, 77, 152, 217

DANISH porcelain, . 273, 388, 393
Darwin, Dr., letter to Wedgwood, 378
Date-marks on Chinese porcelain, 82
—— —— method of reckoning, 91 *note*
—— —— cyclical, . . 110 *note*
—— —— two systems, . . 118
—— —— how written, . . 118
—— —— earliest example, . . 119
—— —— those of Kang-he rare, . 119
—— —— on Sèvres porcelain, . 302
Dauphin, collector of Oriental porcelain, ... 230
Decoration of porcelain, Tang-ying's principles, . . . 112
Dégourdi, Feu, term explained, . 26
Delft ware, early imitations of Chinese porcelain in, . . 224
—— —— competition with Chinese porcelain, ... 234
—— —— in England, . . . 240
Demi grand feu, term explained, . 59
—— —— glazes of, . . . 98
—— —— ware of, . . 79, 106
Derby biscuit, or bisque, . 353-354
—— porcelain, . . . 350-357
—— —— little known of early period, 351
—— —— sold in London, . . 351
—— —— degenerate patterns, . 355
—— —— 'old Japan' copied, . 355
—— —— marks on, . . . 356
Dietrich, 'professor of painting' at Meissen, ... 256
Dillwyn, L. W., at Swansea, . 367-368

INDEX

PAGE

Doccia, near Florence, porcelain factory at, . . . 320-322
—— Chinese white ware and Capo di Monte porcelain imitated, . 321
—— contemporary work, . . 394
Dresden, Chinese porcelain at, . 161
—— Ethnographical Museum, Chinese porcelain from various lands, ... 211
—— Oriental porcelain presented by Grand Duke of Tuscany, . 228
—— collection of porcelain, 227, 245
—— approximate date of bulk of specimens, ... 228
—— porcelain. *See* Meissen porcelain.
Duesbury, William, 341, 342, 349, 350-352, 356
—— and Longton Hall, . . 349
Duesbury's work-book, quotations from, ... 350-351
Duplessis, the king's goldsmith, at Sèvres, ... 291, 296
Dutch dealers supply Augustus of Saxony with porcelain, . . 228
—— painters, Chinese porcelain in their pictures, ... 159
—— trade with China, . . 220
—— —— with Japan, . . 183-184
Dwight, Dr., attempts to make porcelain at Fulham, . 240-241
—— —— nature of the paste made by him, ... 241
—— *Lydia*, stoneware figure of, . 242

EARTHENWARE, term used to include porcelain, . . 334 *note*
Egg-shell porcelain, . . . 107
Egypt, Chinese porcelain found in, . . 158, 211, 212, 215, 216
Egyptian fayence and glazes, . 33
Eisen-porzellan of Böttger, . . 248
Empress-Dowager of China a connoisseur of porcelain, . 115-116
Enamel colours on Meissen porcelain, ... 251-252
Enamelled fayence compared with porcelain, ... 73
—— porcelain, Saracenic origin of, 87, 88

PAGE

Enamelled porcelain of Ming dynasty, . . . 86-91, 161
—— —— three classes, . . 90
Enamels, always superimposed on glaze, ... 31
—— relation to subjacent glaze, . 45
—— on European porcelain, . 45
—— on Chinese porcelain, . 45-48
—— on Japanese porcelain, . . 192
—— firing of, ... 46
—— new sources of colour, . . 48
—— —— at Sèvres, . . . 309
—— on copper, influence on porcelain enamels, ... 88
Encastage, term explained, . . 28
England, how Chinese porcelain first reached, . . 219, 221, 223
—— early attempts to make porcelain in, ... 240-242
English porcelain, rival influence of Sèvres and Dresden, . . 328
—— —— copies Oriental and Continental models, . . . 328
—— —— three types of soft-paste, 330
—— —— royal patronage, 329, 335, 356
—— —— divided into five periods, 331
—— —— contemporary work, 390-391
—— trade with East, . . . 221
Engobe. *See* Slip.
D'Entrecolles, Père, his letters, how written, ... 126
—— —— reception of letters in Europe, ... 126
—— —— summary of letters, 127-136
European enamelling on white Chinese porcelain, . . . 165
—— influence on Chinese porcelain, . . . 109, 135, 159, 162
—— market, Chinese porcelain for, ... 163-164
—— porcelain, early attempts at manufacture, . . . 235-243

Façonnage, or shaping, . . . 20
Falconet, his models used at Sèvres, ... 296
Famille rose, . . . 106-110
—— —— European influence on painting, ... 109

PAGE

Famille verte, ... 98-102
—— —— with black ground, . 100
—— —— relation to Ming enamels, ... 100
Favorite, La, near Baden, porcelain cabinet, ... 227
Fawkner, Sir Everard, and Chelsea porcelain, ... 335-337
Fayence, enamelled, competition with porcelain in seventeenth century, ... 233
—— —— practical disadvantages of, ... 234
Felspar, ... 9, 10
—— decomposition of, . . . 10
—— how far equivalent to china-stone, ... 16 *note*, 251
—— pure, used in Danish and Swedish porcelain, . . 388, 393
Feng Ting ware, white Chinese porcelain, ... 68, 142
Firing of porcelain, chemical reaction, ... 11
—— —— systems described, 26, 191
—— —— at King-te-chen, . . 133
Fischer, Herr, at Herend, . 271, 392
Flambé glazes, ... 42
—— —— on Chinese porcelain, . 152
—— —— firing of, . . 152, 153
—— —— how painted on, . . 153
—— ware, early type, . . . 66
Florence, porcelain made in sixteenth century. *See* Medici.
Flour-spar used in glaze at Fürstenberg, ... 265
Flowers in porcelain at Meissen, 254, 293 *note*
—— —— at Vincennes, . . 293
Fond laque on Chinese porcelain, . 102
—— —— much found in Persia, . 147
Forms of Chinese porcelain, 137-141
—— of Japanese porcelain, . . 192
Fostât rubbish-heaps, fragment of Chinese porcelain found in, . . 216
Fouliang, Annals of, . . . 127
France, early collectors of Oriental porcelain in, . . . 229-231
Francesco, Grand Duke of Tuscany, makes porcelain, . . . 237
Frankenthal, porcelain made at, . 267

PAGE

Franks, Sir A. W., on Oriental china, . . . 53, 121, 185
—— —— on Strassburg porcelain, 270.
—— —— on Parisian kilns, . 314
—— —— on Lowestoft porcelain, 370
Frederick the Great and porcelain, . . 255, 262, 274, 275, 335
Frits, used in French soft pastes, . 279
Frye, Thomas, at Bow, . 342-343
Fuel used in firing porcelain, . 28
Fukien, Chinese province, two wares made, . . . 66, 142
—— white porcelain, . . 142-143
—— —— imitated in Europe, . 142
—— —— decorated in England, . 144
—— enamelled porcelain, . . 143
Fulda, porcelain made at, . . 268
Fulham, Dr. Dwight attempts to make porcelain at, ... 240
Furnaces for firing porcelain, three types described, . . . 27
—— for Chinese porcelain, . . 134
—— for Japanese porcelain, . 191
—— for French soft pastes, . . 280
Fürstenberg, porcelain made at, . 265
Fusibility of porcelain, experiments at Sèvres, ... 8, 18

GARDNER, at Tver, makes porcelain, ... 275
Garnier, Édouard, late director at Sèvres, ... 310
—— —— report on contemporary porcelain, . . . 389-394
Garniture, term explained, . . 23
—— *de cheminée* in Chinese porcelain, ... 139
Geneva, porcelain painters at, 271, 311
Gersaint, his catalogue of Oriental porcelain, ... 230
Ginori family at Doccia, . 320-321
Glass, possible influence on early Chinese glazes, ... 57
—— made by Hu imitated in porcelain, ... 113
Glazes, ... 12, 30-38
—— preparation of, . . . 30
—— applied to unbaked ware by Chinese, ... 30

PAGE

Glazes, called oil by Chinese, . 31
—— distinguished from enamels, 31
—— fusibility of, . . . 32
—— on Egyptian fayence, . . 32
—— composition of ancient, 33, 144-154
—— three main classes of, . . 34
—— on Chinese porcelain, . . 35
—— relation to subjacent paste, . 35
—— containing lime, . . 35-36
—— at Sèvres of two types, . . 36
—— on European porcelain, composition of, ... 36
—— on Chinese porcelain, composition of, ... 37
—— when first used by Chinese, . 69
—— sole source of decoration on early Chinese porcelain, . . 70
—— for French soft pastes, . . 281
—— for hard pastes at Sèvres and Limoges, ... 306
'Glozing' or glazing oven, . . 27
Gold as source of red colour (see also *Rouge d'or*), . . . 89
Gotzkowski, Berlin banker, . . 262
Gotha, Museum at, early Chinese porcelain, . . 72, 174, 212
—— porcelain made at, . . 269
Gouyn, Charles, manager at Chelsea, ... 333
Granite, primary source of both kaolin and petuntse, . . 9
Granitic rocks, varieties of, . . 9
Granja, La, porcelain *gabineto* at, ... 323
Gravant, potter at Sèvres, . 290, 294
Graviata bowls, ... 115
Green and blue enamels not successfully united by Chinese, 98 *note*
—— —— on two vases of Ming porcelain in British Museum, 99 *note*
—— glazes on Chinese porcelain, 149
—— of *famille verte*, how applied, ... 99-100
Grieninger, manager at Berlin, . 263
Growan-stone and clay, . . 377

HAGUE, porcelain made at, 273, 389, 393
Hampton Court, Oriental porcelain at, ... 185, 225-226

PAGE

Hampton Court, no specimens of *famille rose* or of 'Old Japan,' . 225
—— ——age of porcelain represented at, ... 226
—— —— Queen Mary's china cabinet, ... 226
Hancock, Robert, working at Battersea, ... 347
—— —— and transfer-printing, . 360
Handles, fixing of, ... 23
Hannong family, Strassburg potters, . 268, 269, 305, 313, 318
Hardness of porcelain, . . 5, 18
Haslem, J., on casting process at Derby, ... 26, 354
Hat-stands in Chinese porcelain, . 139
Haviland factory at Limoges, 389, 390
Hellot, chemical adviser at Sèvres, 291, 300
—— his memoir quoted, 278-280, 294, 299
Herculaneum works at Liverpool, 371
Herend, in Hungary, porcelain factory at, . . . 271, 392
Herold or Höroldt at Meissen, . 253
Hippisley, translations from Chinese, ... 91 *note*
Hirado or Mikôchi ware, . 193-195
Hirth, Dr., on early Chinese trade, etc., ... 54, 210-213
—— —— collection of early Chinese porcelain, . . . 72
Höchst, porcelain made at, . . 264
Holdship, Richard, . . . 358
Holland, Chinese 'blue and white' early imported, . . . 158
—— Chinese porcelain in, . . 229
—— porcelain made in, 272-274, 389, 393
Hookah-bases of Chinese porcelain, ... 140
Hsuan-te (1425-35), porcelain of, ... 92
—— blue and white of, . . 83
Hua-shi, a stone used in Chinese porcelain, . . . 131, 376
Hungary, porcelain made in, 271, 392
Hung-chi (1487-1505), porcelain of, ... 93, 147
Hunger, at Vienna, . . . 260

PAGE

Hunger, at Venice, . . . 317
Hybrid pastes of Italy, . . 316

IMARI porcelain, . . . 186-193
—— —— elements of decoration, 187
—— —— relation to early Chinese enamelled wares, . . 187-188
—— —— relation to other Japanese wares, ... 188
—— —— copied at King-te-chen, 188 *note*
—— —— composition of paste, . 190
—— —— source and nature of materials, ... 190
—— —— in Dresden collection, . 229
Incense, vessels used in burning, of Chinese porcelain, . . 138
India, Chinese porcelain found in, 85, 158
—— porcelain enamelled at Canton for, ... 165
Insufflation of glaze by Chinese, . 30
Iron-red in fine lines to imitate the *rouge-d'or*, examples at Dresden, ... 162

JADE, highly esteemed in China, 57
—— influence on early Chinese glazes, ... 57
Japan, early pottery of, . 177, 179
—— Korean potters in, . . 179
—— porcelain of, . . 177-207
Japanese experts on Chinese porcelain, ... 55
—— porcelain, how introduced from China, ... 180-181
—— —— early export of 'blue and white,' 182
—— —— exported by Dutch, 183-184
—— —— sources of information, 183 *note*, 193 *note*
—— —— export stimulated by troubles in China, . . . 184
—— ——princely patronage of, 189, 194
—— —— founded on Ming types, 189, 197, 199
—— —— composition of paste, . 190

PAGE

Japanese porcelain, preliminary firing, ... 191
—— —— glazes how prepared, . 191
—— —— furnaces, . . . 191
—— —— marks of crows-feet, . 191
—— —— shapes and uses, . . 192
—— —— colours employed, . 192
—— —— celadon, 192, 195, 197, 201
—— —— stories of processes discovered by spies, . 196, 202, 203
—— —— influence of conservative criticism on, . . . 206
—— trade with China, . . 178
Julien, Stanislas, translations from Chinese, ... 53
Ju yao, early Chinese ware, . . 62

KAGA or Kutani ware, . . 203-206
Kai-feng Fu, old Sung capital, 62, 63, 65
Kakiyemon, a potter of Hizen, . 183
—— ware, ... 185
—— —— blue enamel over glaze, 186
—— —— imitated at Meissen, . 253
—— —— imitated at Chantilly, . 286
Kändler at Meissen, . . . 253
—— chief modeller of 'Dresden figures,' 253
Kang-he (1661-1722), porcelain of, 96
—— his date-mark, why rare, . 119
Kaolin, ... 8, 10
—— preparation of, . . . 16
—— proportion of, in hard pastes, 17, 385
—— search for in France, . 305-306
—— found at Alençon and St. Yrieix, . . . 305-306, 378
—— found in Cornwall, . 376-378
Kaolinic stoneware, use of term, . 69
Karl Theodor, Elector Palatine, 260, 267
Kenzan, potter at Kioto, . . 197
Khanfu, Arab name for Hangchow, 209
Kia-king (1795-1820), porcelain of, 114, 155
Kia-tsing (1521-66), porcelain of, . 94
Kien-lung (1735-1795), porcelain of, ... 105-114
—— his poems inscribed on porcelain, ... 113

INDEX

PAGE

Kien-lung, Sèvres porcelain for, . 298
Kien yao, old Chinese ware, 66, 180
—— —— example in British Museum, ... 71
—— —— white porcelain, . 142, 143
Kilns for firing porcelain. *See* Furnaces.
King-te-chen in early days, . . 62
—— oppression of court officials, 94
—— in Kang-he's reign, . . 96
—— lists of porcelain made, 95, 104, 115
—— burned, . . 115, 125, 220
—— position, . . . 123-125
—— Pekin, how reached from, . 123
—— Canton, how reached from, . 124
—— relation to Jao-chau and Fouliang, ... 124-125
—— description of town, . 125, 127
—— materials brought down in junks, ... 128
—— foreign designs copied at, . 165
—— works abandoned for long period in seventeenth century, 220
Kinsay or Hangchow, . 62, 63, 209
Kioto, porcelain made at, . 196-199
—— potters copied Ming enamelled wares, ... 198
—— wares, *récherché* rudeness of, . 197
Kishiu ware or *Ô-niwa yaki*, . 199
—— —— imitated for export at Tokiyo and Kobe, . . . 200
Kiyomidzu, suburb of Kioto, porcelain made at, . . 197, 198
Kizayemon family, court purveyors of porcelain, ... 188
Kochi, meaning of Japanese term, 175
—— ware of Japanese, . . 201
Kok, Juriann, his new porcelain at the Hague, . . . 389, 393
Koransha, combination of Japanese potters, ... 193
Korea, relations with China and Japan, ... 168
—— fanciful attribution of various wares to, ... 169, 186
Korean porcelain, classification of, 170
—— —— celadon, . . . 170
—— —— plain white, . . 170
—— —— crackle ware, . . 171

PAGE

Korean porcelain described in early Chinese books, . . 171
—— inlaid with white slip, . . 171
—— potters in Japan, . . . 169
Koreans, early use of enamel colours by, ... 169
Kousnetzoff factory, Moscow, . 392
Ko yao, early Chinese ware, 63, 65, 145
'Kronenburg porcelain,' origin of name, ... 267
Kuang-tung porcelain of Raynal, . 166
Kuang yao, stoneware, . . . 166
—— —— early Chinese ware, . 63
Kublai Khan, . . . 72, 213
Kutani or Kaga ware, . . 203-206
—— ware, relation to Imari porcelain, ... 204
—— —— marks on, . . . 205
Kwan-yin, statues of, . 135, 143, 226

LACE, imitated in porcelain at Berlin, ... 264
Lang Ting-tso, superintendent at King-te-chen, . 96 *note*, 103, 151
Lang yao, origin of name, . . 103
Langen, von, at Fürstenberg, . 265
—— —— at Copenhagen, . . 274
Laque Burgauté, ... 114
Lathe, use of, in shaping porcelain, 22
Lead in glaze, . . . 33-34
Leithner, chemist at Vienna, . 261
Lemon-yellow, opaque glaze on Chinese porcelain, . . 111-115
Lille, porcelain made at, . . 284
—— coal early used in porcelain kilns, ... 285
Lime in paste or glaze of porcelain, 35-36, 251
Limoges district, porcelain works in, . . 15, 314-315, 389-390
—— enamel copied in Chinese porcelain, ... 135 *note*
Lister, Dr. Martin, at Saint-Cloud, . . 282, 326
Lists of porcelain made for Chinese court, ... 95, 115
Lithophanic porcelain, at Berlin, . 264
Littler at Longton Hall, . . 348
Liverpool porcelain, . . 370-371

PAGE

London, West of England porcelain painted in, . 363, 366, 369
Longton Hall porcelain, . 348-349
Lowestoft and Oriental armorial porcelain, . . . 369-370
—— china, so-called, . . 165, 369
—— porcelain, . . . 369-370
Ludwigsburg, porcelain made at, . 266
Lung-chuan celadon, reproduced at King-te-chen, . . . 132
—— yao, early Chinese ware, . 63
Lung-king (1566-72), porcelain of, 95
Lustre ware, attempted imitation by Chinese, . . . 74 *note*
Lyle, Mr., on old Siamese porcelain, ... 173

MACAULAY on china collectors, 61 *note*
Madeley, Sèvres porcelain copied by Randall at, ... 366
Magnesia, an element of porcelain paste, ... 12, 131
—— in paste of Vinovo porcelain, 318
—— in paste of Spanish porcelain, 324
Magnets, removal of iron from slip by, 19
Magots, decorated in *famille verte* style, ... 100
Mainwaring, Mr. Massey, his collection of Dresden figures, 254 *note*
Mainz, elector of, and Höchst porcelain, ... 264
Manchu or Tsing dynasty, . . 96
Mandarin china, ... 114
Manganese-purple glazes on Chinese porcelain, ... 98, 147
—— —— in the San-tsai enamels, 99
Marcolini, Count, director at Meissen, ... 256
Marieberg, porcelain made at, . 273
Marks on Chinese porcelain, 117-122
—— —— how and where applied, ... 117, 119
—— —— give little information, 119, 122
—— —— *Tang* or hall, *Chai* or studio, ... 120
—— —— allusive, descriptive, emblems and devices, . . 120-121
—— —— 'canting' devices, . 121

PAGE

Marks on European porcelain. *See* under the principal factories.
—— on Japanese porcelain, 197, 199, 200, 205
Marnes, used in French soft pastes, ... 279
Martabani celadon, examples in European collections, . . 71
—— ware, 64-65, 210 *seq.*, 144, 173, 215
Materials of porcelain, M. Vogt's experiments, ... 17
Maubrée, flower-painter on porcelain, ... 271
Mazarin or powder-blue grounds of Chinese, ... 148
Medici, Lorenzo de', receives present of Chinese porcelain, . 217
—— porcelain, . . . 236-238
—— —— only identified lately, . 236
—— —— Vasari's account, . . 236
—— —— decoration of, . . 237
—— —— composition of, . . 237
—— —— marks, . . . 238
Medicine-flasks (*yao-ping*) or snuff-bottles of Chinese porcelain, . . . 113-114, 140
—— —— of Chinese porcelain, used by Arabs, found in Egyptian tombs, ... 140
Meissen porcelain, . . 244-258
—— —— composition, 7, 250-251
—— —— first successfully made (1713-1716), ... 249
—— —— composition of glaze, . 251
—— —— hardness of paste, and difficulties in application of enamels, ... 251
—— —— early pieces mostly defective, ... 252
—— —— 'Dresden figure groups,' 253
—— —— imitation of Chinese *magots*, ... 253
—— —— armorial designs, . . 253
—— —— flowers imitated, . . 254
—— —— attempts to make large figures, ... 254
—— —— effects of Seven Years' War, ... 255
—— —— important position of enamel painters, . . . 255

INDEX

PAGE

Meissen porcelain, early exported to Turkey, . . . 255 *note*
—— —— marks on, . . . 257
—— —— recent work, . 257, 392
—— —— marks on, copied, . 258
—— —— smuggled into England, 334
Melchior at Höchst, . . . 265
—— at Frankenthal, . . . 268
Mennecy, porcelain made at, 287-288
Mica, an element in Chinese porcelain, . . . 11, 131, 376 *note*
Mikôchi or Hirado ware, . 193-195
Ming dynasty, porcelain of, . 78-95
—— porcelain, colour decoration, . . . 79, 86-91, 161
—— —— 'blue and white,' 81-85, 95, 157
Minton, Thomas, . . 366, 373
Mirror black glaze on Chinese porcelain, . . . 130, 149
Mohammedan forms of Chinese porcelain, ... 140
Mo-hung, iron-red painted over glaze, 150
Mokubei, potter at Kioto, . . 201
Moore, Bernard, imitates Chinese glazes, ... 387
Morikaga, painted on Kaga ware, . 204
Moulding, antiquity of process, 23-25
—— process described, 23-25, 128
—— largely used for Chinese porcelain, ... 112
Muffle-stoves for firing enamels, 47, 281

NABESHIMA or Okôchi ware, . 195
Nantgarw porcelain, . . 367-368
Napoleon's ideas for decoration of porcelain, ... 308
Niderwiller, porcelain made at, . 270
Nien-hao. *See* Date-marks.
Nien Hsi-yao, superintendent at King-te-chen, . . . 104-105
Nien yao, ... 105
Nightingale, Mr., on sales of Chelsea porcelain, . 335 *note*, 336 *note*
Ninsei, potter at Kioto, . . 196
Nove, Le, porcelain factory at, . 318
Nymphenburg, porcelain made at, ... 267
Nyon, porcelain made at, . . 271

PAGE

OKEOVER plate in British Museum, 164
Okôchi or Nabeshima ware, . . 195
'Old Japan.' *See* Imari.
Ô-niwa yaki or Kishiu ware, 199-200
Oriental porcelain, earliest specimens in Europe, . . 217-218
Orleans, Duke of, collector of Oriental porcelain, . . . 230
—— —— and Saint-Cloud, . . 283
—— family, interest in porcelain, 314
—— porcelain made at, . . 288
Ormolu mountings at Sèvres, . 297
—— —— on English porcelain, . 339
Orry de Fulvi at Vincennes, . . 290
Oude Amstel, Dutch porcelain, . 273
—— Loosdrecht, porcelain made at, ... 272
Ovens for firing porcelain. *See* Furnaces.
Owari porcelain, . . . 201-203
—— —— materials and composition, ... 190
—— —— cheap ware for export, . 203
Owen, Mr., on Bristol porcelain, ... 376, 381 *note*

PAINTED glazes, term explained, 44, 59
—— —— on Ming porcelain, . 79
—— —— of Hsuan-te, . . 92
Painters on Chinese porcelain, . 108
—— —— signatures of, . . 108
—— —— division of work, . . 129
—— on Sèvres porcelain, signatures of, ... 303
Painting, schools of, in China, . 82
—— on porcelain. *See also* Enamelling.
Palissy probably endeavoured to make porcelain, . . 239 *note*
Parian ware, ... 373
Paris, soft-paste factories at, . 288
—— hard-paste factories at, 312-314
Pâte-sur-pâte, . . . 41, 311
'Peach-bloom' glaze, . . 105, 154
Pen-rests in Chinese porcelain, . 139
Persia, Chinese porcelain in, 147, 157, 215, 216
Persian fayence compared with Chinese porcelain, . . . 73

PAGE
Persian fayence, early use of blue under glaze, . . . 74, 75
—— —— Chinese influence on, . . 76
—— Gulf, early Chinese trade with, ... 213
—— —— English trade with, . 221
—— inscription on fifteenth century Chinese porcelain, . . 94
Petuntse (*see also* China-stone), 8, 10
—— proportion of, in hard pastes, 385
Pierced decoration in Chinese porcelain, ... 154
Pillows in Chinese porcelain, . 139
Pinxton porcelain, ... 371
—— Billingsley makes porcelain at, ... 368, 371
Pirkenhausen factory, Carlsbad, . 392
Place, Dr., of York, experiments with various clays, . . . 242
Planché, modeller at Derby, . . 351
Plymouth porcelain, . . 375-381
—— —— composition of glaze, . 380
—— —— marks on, ... 380
Poems on Chinese porcelain, . 113
Poison detected by Chinese porcelain, ... 215
Polo, Marco, account of China, . 72
—— —— on Chinese porcelain, 213-214
Pompadour, Marquise de, and Sèvres, . . 290, 292, 295, 300
Porcelain, physical properties of, . 5
—— microscopical structure, . 5
—— chemical composition, . . 6-12
—— materials, ... 14-18
—— transition to kaolinic stoneware in Japanese porcelain, . 206
—— vague early use of the word, . 217
—— early reports in Europe as to its composition, . . . 223
'Porcelain fever' at time of Seven Years' War, ... 255
Porcelain or purslane, word, how used in Elizabethan times, . 222
Portugal, porcelain made in, . 325
Portuguese in China, . . . 219
—— as importers of porcelain, 222, 230
Poterat family of Rouen, 239, 282, 284
Potsherds of Chinese porcelain, ground up for paste of English porcelain, ... 326 *note*

PAGE
Potter's wheel, . . . 20-22
—— —— early forms, . 20-21
Pourcelainnes, the word, how used by Marco Polo, . . . 214
Pressing, process described, . . 23

QUAN-YIN, or Kwan-yin (Jap. Kwannon), . . 135, 143, 226

RANDALL copies Sèvres porcelain, 366
Raynal, Abbé, on Chinese porcelain, ... 85
—— —— quoted, . . 166, 231
—— —— on classification of Oriental porcelain, . . 223 *note*
Réaumur makes porcelain, . . 278
Red decoration *sous couverte*, . 43
Red Sea ports, early Chinese trade with, ... 213
Reine, porcelaine de la, made in Rue Thiroux, ... 313
Reproductions of old types of Chinese porcelain, . . 104, 115
Riaño, Don Juan, on Spanish porcelain, . . . 322, 325
Rice-grain, in pierced decoration, . 155
Ringler, the arcanist, . 264, 266, 267
Risampei, a Korean, at Arita, . 181
Ritual vessels in Chinese porcelain, colours of, ... 138
Rockingham porcelain, . 371-372
Rörstrand, porcelain made at, . 273
—— —— contemporary work, 388, 393
Rose, John, ... 365, 366
Rose-red grounds (opaque), *mei-kwei*, on Chinese porcelain, . 110
Roses on English porcelain, . 352, 368
Rouen porcelain, . . 238-239, 282
—— —— examples where found, 239
Rouge d'or on Chinese porcelain, . 107
—— —— date of introduction in China, ... 110 *note*
—— —— not mentioned by D'Entrecolles, ... 136
—— —— late introduction in Japan, ... 189, 205
—— —— used early at Saint-Cloud, ... 283

PAGE

Rouge d'or, source of, . . 284 *note*
—— —— mentioned in De Frasnay's poem, . . . 284 *note*
Rozenburg works at the Hague, 389, 393
Russian porcelain, . . 274, 392

SACRIFICE of the potter Tung, . 113
Saint-Cloud, porcelain made at, 282-284
—— seventeenth century designs on porcelain, ... 283
St. Petersburg, porcelain made at, ... 274, 392
Saladin's present of Chinese porcelain, ... 215
Salting collection, early vase with *cloisons*, ... 80
—— —— enamelled bowl with Cheng-te mark, . . 89, 161
—— —— *famille verte* with black ground, ... 101
Salvétat, notes to Julien's work, . 53
Samson, imitates old wares, . . 314
Sanda celadon, ... 201
Sang de bœuf glazes, . . . 42
—— —— imitated in England, . 387
—— —— on Chinese porcelain, . 151
San-tsai or 'three-colour' glazes, . 44
—— —— the 'three colours' of Ming enamels, . . . 89, 97
—— —— relation to Kishiu ware, 98
Saracenic glass, enamels on, . 88
—— —— found in China, . 88 *note*
—— motives and forms in Chinese porcelain, . . . 76, 140
—— origin of enamelled porcelain, ... 87, 88
Sassanian influence on Far East, 70 *note*
Sawankalok, porcelain made at, 173, 212 *note*
Sceaux, porcelain made at, . . 288
Schneeball-vasen, ... 254
Schnorrische Erde used by Böttger, 250
Seggars, preparation and arrangement in furnace, . . 28-29
—— arrangement in Chinese furnaces, ... 133
—— late introduction in Japan, . 188
Sei-ji, Japanese term for celadon, . 64

PAGE

Sentoku, Japanese reading of Hsuan-te, ... 92
Seto, village in Owari, connection with Japanese porcelain, . 180, 202
Seto-mono, Japanese equivalent to 'china,' 202
Sève for Sèvres, . . . 290 *note*
'Severe' or kaolinic porcelain, 17-18, 385-386
Sèvres, experimental work at, . 15
—— hard paste, two types, . . 17
—— the new porcelain, . . 18
—— the soft paste of, . . 289-304
—— porcelain works removed to, 292
—— edicts against competing works, ... 295
—— the factory a fashionable lounge, ... 295
—— date of the best work, . . 297
—— soft paste abandoned, . . . 303
—— —— repainted at later dates, 304
—— the hard paste of, . 305-312
—— German workmen at, . . 305
—— Macquer succeeds Hellot, . 305
—— early hard paste of mild type, 306
—— the new mild type of hard paste, ... 307, 390
—— proposed withdrawal of State support, . . . 310, 311, 312
—— hard paste, analysis of, . 386
—— contemporary porcelain, 389, 390
—— laboratory, chemical and technical researches on Chinese porcelain, . . . 47-48, 55
—— porcelain sold at Versailles, . 292
—— —— biscuit figures, . . 296
—— —— royal dinner-services, 297-298
—— —— colours of grounds on, 299
—— —— turquoise enamel, how prepared, ... 299
—— —— *Rose carnée* or *Pompadour*, ... 300
—— —— gilding on, . . . 301
—— —— date-marks on, . . 302
—— —— jewelled decoration, . 302
—— —— artists' marks on, . . 303
—— —— felspathic glaze, . . 306
—— —— glaze on early hard paste, ... 306
—— —— big vases of, . 307-308

PAGE

Sèvres porcelain, the Napoleonic decoration, ... 308
—— —— changes in decoration illustrate history, . . . 310
—— —— coloured pastes, . . 311
—— —— pictorial plaques, . 271, 311
—— —— later developments, 312, 390
'Shaping,' term explained, . . 20
Sha-t'ai or 'sand-bodied': relation to *hua-shi*, ... 132
—— —— used as slip, . . 154
Shonsui, first made porcelain in Japan, ... 181
Siamese porcelain, . . 172-175
—— —— primitive methods of support in kilns, . . 174, 211
—— —— Buddhist emblems, . 175
—— —— decorated at Canton, . 175
Signatures of painters on *famille rose* plates, ... 108
Silica, proportion of, in hard pastes, 7, 385
Silver plate replaced in France by porcelain, ... 285
Slip or *barbotine*, . . . 19, 312
—— decoration of Chinese porcelain, . . . 146, 147, 154
Slop-blending, ... 16
Snuff-bottles of Chinese porcelain, 113-114, 140
Soft pastes, how distinguished, 277 *note*
—— —— of France, origin of, 277-279
—— —— composition, . . 279
Solon, M., at Sèvres, ... 311
Sometsuke, Japanese term for 'blue and white,' 187
Soufflé glazes on Chinese porcelain, ... 30, 150
Sous couverte or under-glaze decoration, ... 43
Spain, porcelain made in, . 322-324
—— Chinese porcelain early imported, ... 322
Spengler of Zurich at Derby, . 354
Spode family of Stoke, . . 372-373
—— Josiah, abandons use of frit in porcelain, ... 373
—— —— his felspar porcelain, . 373
—— ware, ... 373-374

PAGE

Sprimont, Nicholas, manager at Chelsea, . . . 333, 338, 341
—— —— his *Case of the Undertaken* 334
Staffordshire porcelain, composition, ... 372
Steatite in Chinese porcelain, . 131
—— used at Worcester, . . 359
—— used at Swansea, . . . 368
—— relation to *Hua-she*, . 376 *note*
Stoneware, relation of, to porcelain, ... 7, 386
—— composition, ... 7
Stonewares of Chinese, . 165-167
Strassburg, porcelain made at, . 269
Strawberry Hill, porcelain at, 266, 283, 321, 379 *note*
Sui-ki, Chinese term for crackle or *truité* ware, ... 146
Sumatra, Chinese trade with, . 210
Sung dynasty of China, . . 62
—— porcelain, ... 62-68
—— —— copied in later times, 52, 104
—— —— rarity in European collections, ... 71
Su-ni-po and Su-ma-li, cobalt blues of Arab origin, ... 92
Swansea porcelain, . . 367-369
Swedish porcelain, ... 273
—— —— contemporary work, 388, 393
Swinton, Rockingham porcelain made at, ... 371
Swiss porcelain, ... 270

Ta-mo (Jap. Daruma), . . . 143
Tang dynasty of China, importance of, ... 56, 209
Tang-ying, superintendent at King-te-chen, ... 110
—— report on manufacture of porcelain, ... 111-113
Tao-kwang (1820-50), porcelain of, ... 115
Tea drinking, influence on ceramic wares, . . . 179, 224, 243
—— —— ridiculed in drinking-song, ... 243
Tek-kwa or Te-hua, . . . 142
'Throwing' on wheel, . . 20-22

INDEX

PAGE

Thüringer Wald, porcelain made in, 269
Tin enamel used at Chantilly, 286, 294
Tin-glazed fayence, . . . 73
Tin in glaze, ... 33-34
Ting yao, old Chinese ware, 67, 141
Tingui of Marco Polo, . 213-214
Tokugawa period, decline of art in later times, . . . 198, 205
Toshiro, Japanese potter, . . 180
To-t'ai, 'bodiless' porcelain,' . 91
Tournai, porcelain made at, . . 289
Toys made of Mennecy porcelain, 287
—— made of Chelsea porcelain, . 337
Transfer-printing at Bow, . . 347
—— at Worcester, . . . 360
'Transmutation' glazes on Chinese porcelain, . 66, 150-154, 151 *note*
Trembleuse saucers, . . 283, 294
Trenchard family, early pieces of Chinese porcelain in possession of, 219
Triads of colour—San-tsai, . 89, 97
Trou, Henri, at Saint-Cloud, . 283
Tsang Ying-hsuan, superintendent at King-te-chen, . . . 96
Tschirnhaus, glass made by, 246-247, 278
—— his connection with Böttger, 246-247, 248
Tsing or Manchu dynasty, . . 96
Tung, the potter's god, . . 113
Tung-chi (1861-74), porcelain of, . 115
Tu Ting ware, term explained, . 68
Turks use coffee-cups of Oriental porcelain, ... 224
Turner, Thomas, at Caughley, . 365
Turquoise glaze on Chinese porcelain, ... 97, 147
—— grounds (opaque)—*fei-tsui*—on Chinese porcelain, . 110-111
—— —— on Sèvres porcelain, . 299
—— —— on Chelsea porcelain, . 339
Tu-ting, ... 142
Tzu-ching, writer of Bushell MS., 61, 79, 86
Tzu-kin (burnished gold), Chinese name for *fond laque*, . . . 146

UNAKER, kaolin from America, 342, 376, 378

PAGE

Uranium, black enamel from, . 261
Uses of Chinese porcelain, . 137-141
—— of Japanese porcelain, . . 192

VENICE, Chinese porcelain in St. Mark's, ... 77 *note*
—— early attempts to make porcelain in, ... 235
—— Oriental porcelain abundant in seventeenth century, . 235 *note*
—— porcelain made at, . 316-318
—— German influence on porcelain, ... 317
Vernadsky, on chemical reaction in firing porcelain, . . . 11
Vezzi family at Venice, . . 316
Vienna, origin of porcelain works, 260
—— porcelain, decoration, . . 260
—— —— marks on, . . . 260
Villeroy, Duc de, and Mennecy, . 287
Vincennes, porcelain made at, 289-291, 293-295
—— *bleu du roi*, ... 294
—— early perfection of porcelain, 295
Vinovo, or Vineuf, porcelain factory at, ... 318
Vissage or wreathing, 22, 106 *note*, 384
Vogt, M., of Sèvres, quoted, 17, 278

WALL, Dr. John, at Worcester, 357, 363
Walpole, Horace, porcelain from Doccia, ... 321
Wan-li (1572-1619), his present of porcelain to Jehangir, . . 85
—— porcelain of, ... 95
Warham, Archbishop, celadon bowl at Oxford, . . . 218
'Wasters,' importance of discovery of, ... 29
Watteau, influence on German art, ... 253
Wedgwood, his Jasper ware, . 40
—— at Meissen, ... 256
—— and fugitive workmen, 381 *note*
—— his opposition to Champion, 383
Weesp, in Holland, porcelain made at, ... 272

PORCELAIN

PAGE

White Chinese porcelain, two families of, ... 68
Willow pattern at Caughley, . . 365
Worcester porcelain, . . 357-364
—— —— foundation of factory, . 357
—— —— composition of pastes, . 358
—— —— the factory described, . 358
—— —— Oriental wares copied, . 359
—— —— portraits of celebrities, 360, 364
—— —— marks on, . . 360, 364
—— —— transfer-printing, . 360-361
—— —— migration of painters from Chelsea, ... 361
—— —— *bleu du roi* grounds, 361-362
—— —— decorated in London, 362-363
—— —— the Chamberlain factory, 363
—— —— late developments, . 364
'Wreathing' or *vissage*, 22, 106 *note*, 384
Wu-kung, five vessels on Buddhist shrine, ... 138
Wu-shê (*see* Garniture), . . 139
Wu-tsai, the 'five colours' of Ming enamels, ... 89
—— relation to *famille verte*, . 101

Yang-tsai, 'foreign colours,' associated with Indian enamels, . 165

PAGE

Yao-pien, or furnace transmutation, ... 152
Yao-ping, or medicine-flasks, 113, 140
Yeiraku ware, . . . 198-199
Yeisen, potter at Kioto, . . 197
Yellow glazes on Chinese porcelain, ... 94, 147
Yi-hsing yao, stoneware, . . 165
Yuan or Mongol dynasty, . . 72
—— —— porcelain of, . 77, 152
Yung-cheng (1722-35), porcelain of, ... 103-105
—— copies of old wares, . . 104
—— his early interest in porcelain, ... 135
Yung-lo (1402-24), early date-mark, ... 67
—— porcelain of, . . 68, 91

ZAITUN, . . . 142, 209, 213
Zanzibar, Chinese porcelain found at, ... 211
Zengoro, family of Japanese potters, 198
—— his coral red, his Yeiraku seal, ... 198-199
—— his Kairaku ware in Kishiu, . 200
—— Hozen at Kutani, . . . 205
Zurich, porcelain made at, . . 270

Printed by T. and A. CONSTABLE, Printers to His Majesty
at the Edinburgh University Press

00063961

Digitized with financial assistance from
Observer Research Foundation
on 17 May, 2019